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## Ranking of Fatigue Data Based upon Monte Carlo Simulated Confidence Number Figures

Jacob McBride

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# RANKING OF FATIGUE DATA BASED UPON MONTE CARLO SIMULATED CONFIDENCE NUMBER FIGURES

by

JACOB McBRIDE

(Under the Direction of Brian L Vlcek)

## ABSTRACT

Since fatigue is probabilistic, trends observed in large populations of data are necessary to select materials, compare engineering designs, or establish preventative maintenance schedules. The generation of large experimental fatigue populations, however, is prohibitively time consuming and costly. As a solution a Weibull-based Monte Carlo simulation of fatigue life was developed based upon a failed “bin” model, and five billion fatigue lives were simulated. These fatigue lives were used to generate  $L_{10}$  lives. A model of confidence number was developed dependent upon statistically large samples of simulated  $L_{10}$  fatigue lives, and independent of a limited number of published curves. Using these simulated values, Confidence number figures were generated that deviated from 0.0% - 7.4% of previously published figures and were independent of confidence bands. Results differed as little as 1% from those determined graphically for experimental bearing data sets while graphical interpolation was eliminated.

**INDEX WORDS:** Fatigue, Preventive maintenance, Weibull analysis, Monte Carlo analysis, Probability analysis, Rolling element bearings, Population comparison, Population ranking

RANKING OF FATIGUE DATA BASED UPON MONTE CARLO SIMULATED  
CONFIDENCE NUMBER FIGURES

by

JACOB McBRIDE

B.S., Georgia Southern University, 2009

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RANKING OF FATIGUE DATA BASED UPON MONTE CARLO SIMULATED  
CONFIDENCE NUMBER FIGURES

by

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## DEDICATION

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# CHAPTER 1

## OVERVIEW OF THE STUDY

### Introduction

Engineers are often limited in their designs by the quality of the material characteristics available to them in design curves, texts, and the literature. Fatigue life is an important material property that has a limiting effect on life. Fatigue, however is probabilistic in nature. If measurements are repeated, distributions of results are obtained rather than singular values. As a result, it is extremely difficult to predict and model fatigue life. Due to the probabilistic nature of fatigue failure, trends observed in large populations of fatigue life data are necessary to select materials, compare engineering designs, or establish preventative maintenance schedules. The generation of large experimental fatigue failure populations, however, is oftentimes prohibitively time consuming and costly.

Comparisons between materials, processing, and designs can be made using confidence numbers (the number of times out of one hundred that one population's  $L_{10}$  life would be greater than another's if the process or experiment were repeated). While graphical techniques for establishing confidence numbers have been used for nearly 40 years, they are limited in the cases to which they can be applied, and they oftentimes require multiple graphical interpolations.

### Statement of the Problem

The primary goal of this research was to generate confidence number curves that applied to a broader range of conditions than currently available and to eliminate the need for graphical interpolation. A Weibull-based Monte Carlo simulation of fatigue life was

developed based upon a failed “bin” model, and five billion fatigue lives were simulated. These fatigue lives were used to generate one hundred  $L_{10}$  lives (the fatigue life at which 10 percent of a population has failed) for two generic data sets. The one hundred  $L_{10}$  lives were then compared pair-by-pair to determine the number of times the  $L_{10}$  representative of Set A was greater than that of Set B.

It is hypothesized that a Weibull-based Monte Carlo simulation will make it possible to relatively rank materials using confidence numbers independent of Johnson’s figures. This will be done without the need for interpolation from Johnsons original confidence number figures, although comparisons will be made to the original figures to validate this new technique. Furthermore, this Weibull-based Monte Carlo technique will make it possible to create confidence number figures similar to those published by Johnson but at any total degree of freedom and Weibull slope. Comparison to established curves should show reasonable agreement.

#### Need for the Study: Fatigue and Preventive Maintenance Practices

When designing parts and components for machines and other mechanical devices, engineers make every effort to calculate the stresses that will be experienced by the components so that they can be designed to safely withstand these stresses. By varying the material type or design of the components they can ensure that the parts can handle the static and dynamic loads they will be exposed to. Ensuring that the parts and components can handle these stresses, however, does not mean that they will last forever. A phenomenon known as fatigue will most likely end up being the limiting factor of most metallic machine components. Fatigue, as defined by the Encyclopedia of Materials: Science and Technology, is the progressive, localized, permanent structural change that

occurs in materials when subjected to fluctuating stresses and strains that may result in development of cracks or fracture after sufficient number of cycles of fluctuations (Parida 2008, 1). This means that even though the loads experienced by a structure may be well below the ultimate strength of the material they can still cause failure of the structure over time due to repeated loading and unloading. As explained by Zaretsky, Melis, and August the only way to completely avoid the possibility of fatigue failure is to design for infinite life, which in most cases is not a feasible design strategy (Zaretsky, Melis, and August 1999). Fatigue failure is actually responsible for the majority of failure in mechanical components (Kalpakjian and Schmid 2006). Since fatigue is so common and can lead to catastrophic failure it is important that fatigue failure be taken into account in the design phase. As noted by Vlcek, Hendricks, and Zaretsky, it is important to mention at this point that fatigue life is not a deterministic property of a material but rather a probabilistic one (Vlcek, Hendricks, and Zaretsky 2007). This means that even if extensive laboratory testing were carried out it still would not establish a set number of cycles that a component was going to survive; at best a range or distribution of fatigue lives will be obtained. This characteristic of fatigue failure is what makes designing for it so difficult.

There are two options to be considered when accounting for fatigue in the mechanical design process. The first is to design the component in a manner in which throughout its operational life stresses remain below the fatigue limit of the material. The second method is to design a component with a finite life that will be replaced when it reaches this predetermined number of cycles. This is where a practice known as preventative maintenance comes into play. Preventative maintenance is the practice of replacing parts

or components after they have completed their predetermined serviceable life but before they reach the point of failure. This is a very important practice both from a safety and economic stand point. Safety critical components are those that must not fail in order to prevent injury or death. An example of a safety critical component would be a key component in an aircraft engine. If a catastrophic failure of a key aircraft engine component were to occur resulting in a crash then there is a high likelihood that the result would be injury or death of the passengers. The same situation can also be used to illustrate the economic impact of preventative maintenance. From an economic standpoint it is much cheaper to replace a single engine component in a timely, anticipated manner rather than to have to replace an entire lost aircraft. An economic advantage can also be seen in a less dangerous failure situation. If a gear inside a machine were not replaced at the end of its recommended service life and failed the pieces of the broken gear would most likely cause collateral damage to other components as they continued to operate. In this case it would then be necessary to repair all of the damaged parts and to ensure that all of the pieces of the failed gear were cleaned out to prevent further damage. It would have been significantly less expensive in terms of material and labor costs to replace the component before it failed. In most instances, it is more economical to replace the suspect component during convenient and predetermined times—such as schedule shut down of a facility. Preventative maintenance can also consist of periodic checks of components rather than replacing components on a set schedule. In many cases it is possible to see warning signs of impending failure (such as vibration in bearings, changes in wear particles in lubricant, or operating temperature)

and regular inspections can lead to detection of these signs which result in replacement of components before they fail.

In addition to establishing fatigue lives and limits of a component or material, it is often necessary to compare or relatively rank the fatigue lives of two competing designs, materials, material suppliers, or component manufacturers. While statistical techniques such as the Chi-squared or student-t test exist for comparing mean or average values, failure rates at the  $L_{10}$  life (life at which 10 percent of a population have failed) or sooner are necessary for safe designs.

#### Confidence Bands

Confidence bands can be used to graphically establish a difference between test populations. Confidence bands represent the upper and lower bounds of a sample set at the given level of confidence—the range of variation. As an example, if the 90% confidence bands were fitted to a data set then 90% of the data points would lie within these limits (Vlcek et. al. 2010). As long as the upper confidence band of one data set does not overlap the lower confidence band of another data set, then the two populations can be said to be uniquely different (up to the probability of the two confidence bands).

Confidence numbers are a third technique to relatively rank the fatigue lives of two data sets. A confidence number represents the number of times out of 100 that a component from population A will be superior (in this case outlive) a component from population A. In other words if it was found that material A had a confidence number of 90% then it could be said that if a component from the two populations, A and B, were compared 100 times the sample from population A would outlive that of population B 90 times out of 100. This technique is often limited by the lack of available fatigue data. It

should also be noted that this comparative method can be used to rank not only different materials but also similar materials with differing finishing treatments (heat treatment, surface finish, supplier, etc.), different types of components such as comparing ball bearings to roller bearings, and even different designs of an entire mechanical system.

In order to establish service lives and maintenance schedules it is necessary to first know the fatigue limits of the materials used in making the components. There are three primary methods by which these limits are established. There are two physical methods which consist of collecting data from actual use and establishing trends from laboratory testing, and then there is statistical modeling type testing. The three methods are compared in Figure 1 and then explain in detail thereafter.

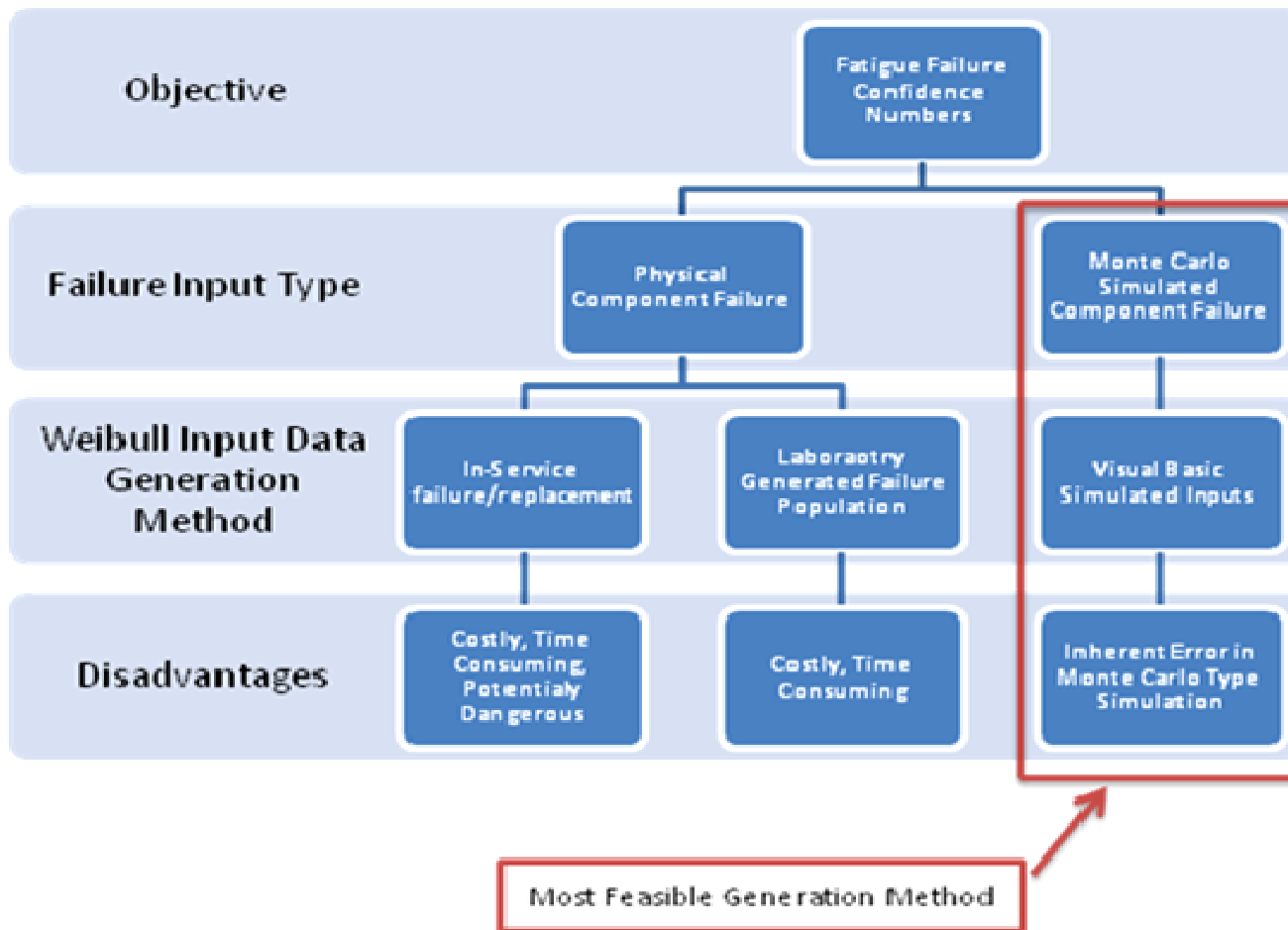


Figure 1: Comparison of fatigue limit data generation methods

The first method, which involves collecting data from failures experienced in service, is very time consuming since it depends on having enough parts fail through normal use to develop failure trends, and this cannot be part of the design process since field failure data is necessary to establish trends. The second method is accelerated bench-top testing. While less time consuming, it is usually very expensive because it requires buying large supplies of material, spending large amounts of time preparing the test samples, and spending a lot of time running the tests on an expensive test apparatus. An increasingly used alternative to physical testing is simulated probabilistic testing. This type of testing utilizes iterative program software that can be commanded to carry out hundreds of thousands of calculations which represent physical fatigue tests. One such software package that was utilized for this paper is Visual Basic which is a programming language that can be used in conjunction with Microsoft Excel. Visual Basic makes it possible to write a macro (or program) that runs loops containing random number generation, mathematical calculations, and graphing functions that allowed for simulation of fatigue failure without the need for endless testing. Interface with the spreadsheet allows for easy graphical input of material characteristics and the output of calculated information.

#### Monte Carlo Model

To accomplish the simulated random sampling for this work a method known as the Monte Carlo method was utilized. Monte Carlo based simulations are a widely used and accepted method for establishing probabilistic trends. As explained by Vlcek, Hendricks, and Zaretsky this modeling technique incorporates a mathematical model (in this case of fatigue life) in which a variable or parameter is included that is a function of a random



number (Vlcek et. al. 2010). By repeatedly drawing random numbers to be plugged in for at least one variable it becomes possible to solve a mathematical model of fatigue life. The process is repeated until a reliable trend emerges from the mathematical model (Vlcek et. al., 2010). Characteristic material data, based on a limited amount of testing are usually inputted into the mathematical model and the desired output is generated. The process of selecting random inputs and generating calculated outputs is repeated a significant number of times (often times as many as 10,000) to give statistical significance to observed trends.

#### The Work of Weibull and Johnson

This work utilizes a Weibull-based Monte Carlo “bin” model that was developed by Vlcek, Hendricks, and Zaretsky (2003). In 1939 Weibull empirically determined a distribution function by optimizing the fit of equations to a small set of fracture failures (Weibull 1951, 293-297). The distribution function is dependent upon the statistical level of probability of failure ( $L_{10}$  life for this study), the characteristic life at 63.2 percent probability of failure, and the slope of the fitted line (which is reflection of the scatter within the data set). Using the distribution function empirically developed by Weibull, Leonard Johnson developed a method to relatively rank the fatigue lives of two or more data sets based on confidence numbers (Johnson 1964). Johnson determined confidence numbers by establishing the intersection of the upper confidence band of one population and the lower confidence band of another at 40%, 50%, and 75% confidence (Johnson 1964). An “approximately” straight line was then fitted through these points. Ultimately, Johnson’s confidence numbers are a function of the Weibull slopes (scatter in the original

data sets), the total degree of freedom, and the ratio of the  $L_{10}$  lives of the two data sets (such that the ratio is greater than 1.0).

Johnson is credited with coming up with practical, applied engineering analysis techniques based on the Weibull distribution function (Vlcek et. al., 2007). The work Johnson completed while with the GM Research Center allowed him to create figures from which confidence numbers could be read to rank materials. Figure 2 is an example of one of Johnson's Confidence Number Figures.

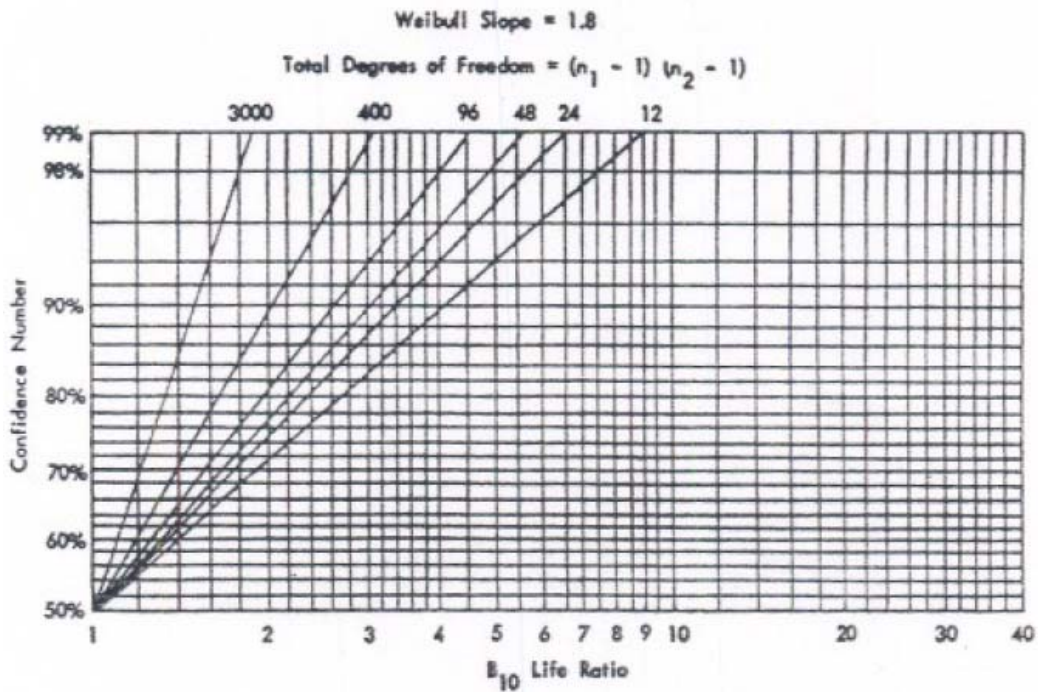


Figure 2: Example of confidence number figure developed by Leonard Johnson (Johnson 1964).

Using Weibull parameter inputs Johnson created confidence number curves at set Weibull slopes (1.0, 1.2, 1.4, 1.6, 1.8, and 2.0) and total degrees of freedom (12, 24, 48, 96, 400, and 3000). These confidence number figures can be used like design curves. This made it fairly easy to read confidence numbers for data sets that had a total degree of freedom and Weibull slope that corresponded to one of his curves. The problem

arises, however, when these values do not equal those plotted by Johnson. This then leads to messy graphical interpolation between not only curves on a single figure but also between figures in some cases. In 2007 Vlcek et. al. empirically derived an algebraic expression based on a simple algebraic equation fitted to Johnson's original confidence number figures (Vlcek et. al., 2007). This equation made it possible to calculate confidence numbers to within 1% of those interpolated graphically from the original Johnson figures.

#### Summary: Hypothesis, Objectives, and Overview of Work

It is hypothesized that this work will be able to build upon the work previously carried out in this area in order to develop a Weibull-based Monte Carlo simulation that will make it possible to relatively rank materials using confidence numbers independent of Johnson's figures. This will be done without the need for interpolation from Johnson's original confidence number figures, although comparisons will be made to the original figures to validate this new technique. Furthermore, this Weibull-based Monte Carlo technique will make it possible to create confidence number figures similar to those published by Johnson but at any total degree of freedom and Weibull slope. The method of generating confidence numbers is verified through (i) comparison to results calculated using previously accepted methods of generating confidence numbers, (ii) by recreating the figures published by Johnson to illustrate similar outputs, (iii) and by comparison to experimental data sets produced by Zaretsky and Parker (Zaretsky and Parker 1978) for rolling element bearing fatigue failure.

## CHAPTER 2

### BACKGROUND AND REVIEW OF RELATED LITERATURE

#### Introduction to Fatigue

Fatigue is a phenomenon that was first scientifically studied in railroad axles in the 1800's. The axles were made of ductile steel but were breaking in a brittle manner only a short time into their service. It was not long after that a paper was published by Rankine in 1843 in which he hypothesized that the brittle behavior of the steel was caused by crystallization due to fluctuating stress (Norton 2006, 299). At that point the axles were solid and connected directly to the wheels and therefore rotated with them which resulted in a cyclic loading and unloading as the axle turned over. At that time the only material strength properties that were incorporated into designs was static load strength limits since dynamic loads were just becoming a concern with the development of new machinery (Norton 2006, 299). It was not until 1870 that a German engineer by the name of August Wohler published the first findings of failure due to fatigue. Over twelve years he carried out tests on axles in which he caused them to fail as a result of fully reversed loading. In his findings he discussed the existence of an endurance limit in steel which was a stress level that was tolerable for millions of cycles (Norton 2006, 299). From that point on fatigue failure was a failure mode that had to be taken into account when designing components that would be subject to dynamic loading.

All metals, when cyclically stressed, experience microstructural damage that accumulates over time until cracks initiate and structural capability is degraded (Roth 2008, 1). Cyclical loading occurs when the magnitude of a load applied to a component increases and decreases repeatedly over time. This can be due to a change in the load

applied to a stationary object, change in local stress due to a fixed load on a dynamic object, or by thermal loads. Cyclic stress may be caused by the repeated application of mechanical loads or by thermal stresses due to repeated heating and cooling. Under this type of repetitive loading conditions, the part fails at a stress level well below that which would cause failure to occur under static loading (Kalpakjian and Schmid 2006, 83). This will be the case unless the stress level experienced is below the fatigue limit of the material. The fatigue limit, or endurance limit, is defined in the *Encyclopedia of Material: Science and Technology* as the maximum stress due to fully reversed cycles of loading that a metallic material can withstand with 50% probability of failure (Parida 2008, 3). This is the limit that Wohler discovered that the steel axles would run for millions of cycles without fracturing like those that were exposed to higher stresses. When feasible, it is good engineering practice to design machine components with stresses under their fatigue limit from both a safety and economic stand point. The fatigue limit of materials has an enormous range depending on surface finish, size, type of loading, corrosive and other aggressive environments, mean stresses, residual stresses, heat treatment, and stress concentrations. Depending on the materials and all of these factors and considering the fatigue limit based on a nominal alternating stress, this value can range from 1% to 70% of the ultimate tensile strength (Stevens 2008, 5). When a material is subjected to loads above its fatigue limit it will reach a point at which the fatigue effects will cause it to fail. Fatigue failure is commonly described in terms of the fatigue life of a material. Fatigue life of any structure or component is the total number of cycles of reversed loading required to cause failure (Parida 2008, 3). Fatigue failures involve a complex interaction of load, time, and environment in which all of these factors

can range almost infinitely in magnitude (Stevens 2008, 1). The fact that all of these factors play a role in the fatigue life of a component make it extremely difficult to predict precise fatigue lives. There are three stages to fatigue failure: crack initiation, crack propagation, and sudden fracture (Norton 2006, 302). After the crack is initiated the propagation through the component will take the majority of the useful life until finally it reaches the point of instantaneous failure. At the instant that failure occurs the crack will have propagated to a length at which the structural integrity of the component has been compromised; this length is known as the critical crack length (Kalpakjian et. al. 2006, 83). The crack will begin at either the highest point of stress or at some sort of material defect. This defect can have many different causes but is generally due to some sort of surface effect or inclusion within the material. Surface effects can be caused by differences in factors such as surface roughness, microstructure, chemical composition, and residual stress (Stevens 2008, 6). Often times, depending on surface finish, there are preexisting voids on the surface of components. These voids, or inclusions, may consist of various types of impurities in the metal and the extent of their influence depends on such factors as their shape, hardness, distribution, and fraction of total volume (Kalpakjian et. al. 2006, 89-90). Metal fatigue is also highly influenced by microstructure which includes, among other things, heat treatment, inclusions, voids/porosity, delamination, and other discontinuities or imperfections. Fine grain size generally provides better fatigue resistance than course grain by reducing localized strains along slip bands which reduces the amount of irreversible slip. Fine grains also provide more grain boundaries which helps to reduce fatigue crack growth rates (Stevens 2008, 5-6).

The primary objective of fatigue testing is to obtain fatigue life of materials which to be used in product development, help determine the need for alterations, repairs, or inspections, evaluate failed parts, or determine fatigue durability of components (Stevens 2008, 3). Fatigue design is based on fatigue life data of the material being used. Since fatigue is probabilistic rather than deterministic it is difficult to determine a materials fatigue life except through analyzing trends in large sets of data. The traditional way of doing this is to carryout standardized fatigue testing which is both expensive and time consuming. This type of testing is generally carried out using laboratory style test equipment which is designed to simulate extended fatigue wear over a short period of time. Among others, three common types of experimental fatigue testing are rotational, push-pull, and the use of what is called a 5-ball tester. Rotational fatigue testing is normally carried out on a bench top rotational fatigue test machine which operates by applying a bending load to a specimen that is being rotated so as to cause the specimen to be cyclically loaded and unloaded as it spins. A push-pull type test subjects a test specimen to alternating tension and compressive forces simulating wear over time. The third type, the 5-ball tester, is a method generally used to evaluate the fatigue life of ball bearings by rotating a lubricated ball bearing against 4 other fixed bearings in order to observe the wear experienced over time.

There are, however, alternatives to physical testing such as computer-aided engineering (CAE) and Digital prototyping. CAE utilizes computers to perform most of the analysis in the design procedure and digital prototyping refers to computer generated prototype models near or at the final state of the product (Stevens 2008, 4). Both of these utilize material characteristics within computer programs to generate fatigue data for

components. Another method, the one to be discussed further herein, is using a small sample size of physical fatigue data to generate a very large digital sample size which can be used to calculate statistically significant fatigue failure trends.

When engineers design for fatigue there are multiple design criteria that can be followed. Which criterion is adhered to is based on the component being designed and the application for which it is to be used. Early on in fatigue design it was recognized that fatigue data is limited by a certain amount of uncertainty and generally based on averages, and therefore should not be used as a design limit. To remedy this, engineers would design with very high tolerances that allowed for a high factor of safety against fatigue failure (Stevens 2008, 2). While this approach is good from a safety standpoint it is limiting from both an overall design, weight, and economic standpoint. While using stronger and typically bulkier material aids in eliminating fatigue failure it causes structures to be heavier and require more material. As designers are moving towards lighter structures operating nearer theoretical limits to increase efficiency, speed, cost, and maneuverability it is more important to have accurate fatigue calculations to avoid fatigue failure. While maximum loads are kept below minimum properties, additional safety factors may be applied for boosted confidence (Roth 2008, 1).

One common criterion, and the safest one, is known as infinite-life design. The design requires local stresses to be safely below the fatigue limit which allows components to run many million cycles without experiencing fatigue effects (Stevens 2008, 2). The down side to this design method is that the fatigue limit can be hard to determine in many applications, and the added strength may not be economical or practical. Another method



is to design to the safe-life design criterion. This is the practice of designing for a finite service life that is less than the test life or the calculated life and includes a margin for scatter in fatigue life and for other unknown factors. This method would be used in applications where appropriate regular inspections may not be practical or possible. The component is used until it reaches the end of its predetermined service life at which point it is replaced regardless of its condition. Fail-safe design is a design method in which if one part fails, the entire system does not fail as a result. This design type would generally include redundancies that act as backups to keep the system running until a failed part can be replaced. A refinement of fail-safe design is damage tolerant-design. Damage tolerant design accepts that there will be cracks, but utilizes fracture mechanics and testing to determine whether cracks will grow large enough to produce failure before discovery through routine inspection (Stevens 2008, 2).

#### Preventive Maintenance

The two most common practices for preventing fatigue failure in industry are designing for a finite life at which point the part is replaced or carrying out periodic inspections of the part to examine for signs of fatigue wear. This practice of replacing parts before they fail is known as preventive maintenance. Preventive maintenance is practiced in all sectors of industry on parts ranging from belts to bearings. Many studies have been carried out to determine both if preventive maintenance is feasible and necessary and if it is feasible how often should it be carried out to maximize efficiency. Unnecessary preventive maintenance is wasteful and results in a negative economic impact on operations and therefore should be avoided whenever possible. In the area of machine operations often times the two states of operation are up and down (Ambani,

Meerkov, and Zhang 2010). In this case preventive maintenance should only be carried out as often as necessary to keep machines operational. Other cases exist, however, where it is necessary to evaluate the decrease in efficiency with the life of the part experiencing fatigue (Ambani et. al. 2010). In this case, analysis must be carried out to determine the decrease in efficiency over time and the financial impact of this decrease in efficiency. Additionally, the economic impact of the cost of replacing the part, to include machine downtime, cost of parts, and cost of labor, must be evaluated. These two factors must then be compared to determine when it is economically advantageous to perform the preventive maintenance on the part being examined. Yu et. al. described preventive maintenance schedule predictions using probabilistic analysis of small population sample sets (Yu et. al. 2010). These authors take into account the “fuzziness” that exists in the data that reliability engineers use to calculate life durations for components and how this uncertainty can be accounted for. The probabilistic method used by Yu et. al. is the Bayesian method, which has been controversial due to the uncertain derivation of this statistical method. The authors utilized this statistical model and preventive age replacement policy also known as “T-age replacement policy” to develop feasibility models for preventive maintenance which took into account economic factors.

#### Overview of the Weibull Equation

Reporting any strength property of a material has an inherent level of variability that can come from a number of different sources. These include material defects, deviations in test conditions, and inaccuracies in measurement devices among many others. In addition to these sources of error the measurement of fatigue life carries an even higher level of variability due to the nature of this phenomenon as described previously. As a

result it is necessary to employ statistical analysis methods in order to determine acceptable levels of confidence in reporting fatigue life predictions. It cannot be over-emphasized that fatigue failure is probabilistic, not deterministic.

A widely accepted statistical model for evaluating material properties of this nature was developed by Woloddi Weibull in 1939 (Weibull 1951). Weibull developed a statistical method for evaluating the fracture strength of materials using mathematical distribution models. He empirically fit a distribution to a small set of fatigue data, which has proven to be a representative fit of any fatigue data set. His analysis method made it possible to use a small set of data which contains unavoidable scatter to determine material characteristics that can be applied broadly to the material being examined. The formula inferred by Weibull made it possible to develop trends from a small set of data that would allow designers to graphically determine, within an acceptable level of accuracy, the statistical percent of components being examined that would fail at a given life. Although it does still require experimental inputs, this statistical tool allows for data to be analyzed in a relatively short amount of time using only a portion of the time and resources that would be required to accomplish similar results through experimental testing alone.

There are many applications of Weibull's distribution function which extend beyond the scope of this work. For example, when characterizing different modes of fracture strength beyond fatigue induced fracture it can be applied to determine tensile strength characteristics of common material. In a work completed by Hu and Duan , Weibull analysis was employed to help analyze experimental results collected in the study of the size effect phenomenon as it relates to quasi-brittle fracture of concrete materials (Hu and

Duan 2010). This is an example of the many broad applications of Weibull statistical analysis. A very notable user of Weibull's work is Leonard Johnson of the GM Research laboratory (Johnson 1964). Johnson developed an original method, which he presented in a book titled *The Statistical Treatment of Fatigue Experiments*, to rank two different fatigue data sets using Weibull parameters as the basis for his work. Johnson's work is an important building block from which this work was developed and is discussed in further detail later on in this chapter. Several groups of researchers at the NASA Glenn Research Center in Ohio have been successfully using Weibull's distribution function for decades to develop methods to rank fatigue lives among different components. Vlcek, Hendricks, and Zarertsky, who are referenced extensively in this work, have utilized work published by both Weibull and Johnson to develop probabilistic methods for evaluating fatigue data. In a paper by Cheng and Hwu, Fatigue Reliability Analysis of Composites Based on Residual Strength, the two parameter Weibull distribution function was used to examine fatigue reliability of Gr/PEEK composites (Cheng and Hwu 2006). In this work composite test specimens were subjected to unidirectional tensile tests in different loading conditions in order to establish small data sets to be analyzed by fitting the Weibull distribution function.

The two-parameter Weibull equation used here is:

$$\ln \ln\left(\frac{1}{S}\right) = m \ln\left(\frac{L_s}{L_\beta}\right) \quad 0 < L_s < \infty; 0 < S < 1 \quad \text{Equation 1}$$

Where S equals survivability, m is the Weibull slope,  $L_s$  is the life at the corresponding survivability, and  $L_\beta$  is the characteristic life which is the number of cycles at which

63.2% of the samples will have failed. For most warranty and preventative maintenance purposes, the  $L_{10}$  life (life at which 10 percent of the population has failed), is typically used as the acceptable level of survivability.

For the purposes of this work the two-parameter Weibull equation is used to determine characteristic fatigue properties of materials based upon a limited sample size. It is expected, and observed, that Weibull parameters from larger sample sizes will yield more accurate prediction of fatigue failure. To illustrate this Vlcek, Hendricks, and Zaretsky constructed cones to depict the variation in calculated values as a function of sample size (Vlcek, Hendricks, and Zaretsky 2003). Figure 3 is one such cone that represents the variation in Weibull slope as a function of sample size.

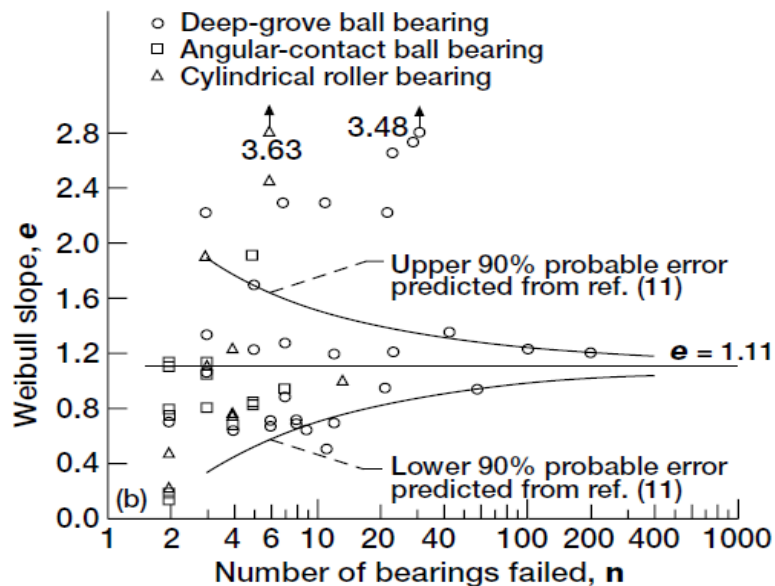


Figure 3: Illustration of variation in Weibull slope as a function of population size (Vlcek et. al. 2003).

The inherent problem with this remains that production of large sample sizes is usually not feasible due to time and/or economic constraints. While the Weibull model has been successfully used to generate failure probability data from small sample sizes it should be

noted that Weibull does not indicate a minimum number of samples necessary to establish dependable trends. He acknowledges the fact that the fit models are not perfect and in fact can contain a level of error as a result of the fitting process. The fitting process, however, allows for a smoothing out of the deviation in results to determine a trend from which fatigue lives can be calculated (Weibull 1951). The key to the method developed by Weibull is fitting a distribution to fracture or fatigue data collected from a limited number of samples. The fitted distribution plots as a straight line, when the natural logarithm of life is plotted on the abscissa and the natural log of the natural log of one over the survivability is plotted as the ordinate. A least square fit of the data points result in a straight line from which the fatigue life of the larger population can be extrapolated at any probability of failure. Weibull acknowledges that there is no true theoretical basis for establishing such a model to analyze distribution functions so he was forced to empirically defend his model which he did by applying it to multiple situations in highly differing disciplines. This allowed him to demonstrate the accuracy of his model by proving it could produce usable results through a wide range of applications (Weibull 1951).

#### Review of the work of Leonard Johnson

In 1964 Leonard Johnson of GM published a book which both utilized Weibull's distribution function, and simplified its application. As part of this text, Johnson proposed a comparison method that could be utilized to relatively rank (or establish statistical differences between) the fatigue life of two different materials. This methodology was a Weibull-based comparison technique that quantitatively compared either the  $L_{10}$  or mean fatigue lives of two different data sets in order to determine which

was superior at a given probability of survival (Johnson 1964). Whether for preventative maintenance purposes or engineering design, Johnson recognized the need in industry to be able to predict with an acceptable level of reliability, the expected service life of parts that are subjected to fatigue inducing forces (Johnson 1964). While it is not possible to determine the finite number of lives that will be survived do to the probabilistic nature of fatigue Johnson was able to utilize Weibulls statistical model to develop a methodology for relatively ranking two data sets. This level of confidence that one data set is superior to another was communicated through a Confidence Number. This confidence number reflected the number of times out of one hundred that a component of type A would outlive a component of type B if use or experimental conditions were repeated. Johnson reported confidence numbers graphically as a function of population size ( $n$ ), the Weibull slopes of both data sets, and the  $L_{10}$  fatigue life ratio of both data sets. While Johnson also created confidence curves as a function of mean life ratio, the focus of this work is on determining confidence numbers at the 10% failed level, or the  $L_{10}$ , because confidence numbers greater than 90% are considered statistically significant (Vlcek et. al. 2010). Johnson created fans of confidence curves at total degrees of freedom of 12, 24, 48, 96, 400, 3000 (which relates to the population sizes of the two populations being compared) for each of the Weibull slopes of 1.0, 1.2, 1.4, 1.6, 1.8, 2.0. Figure 4 is a reproduction of Johnson's confidence number figures at a slope of 1.0 and Figure 5 is at a slope of 1.8.

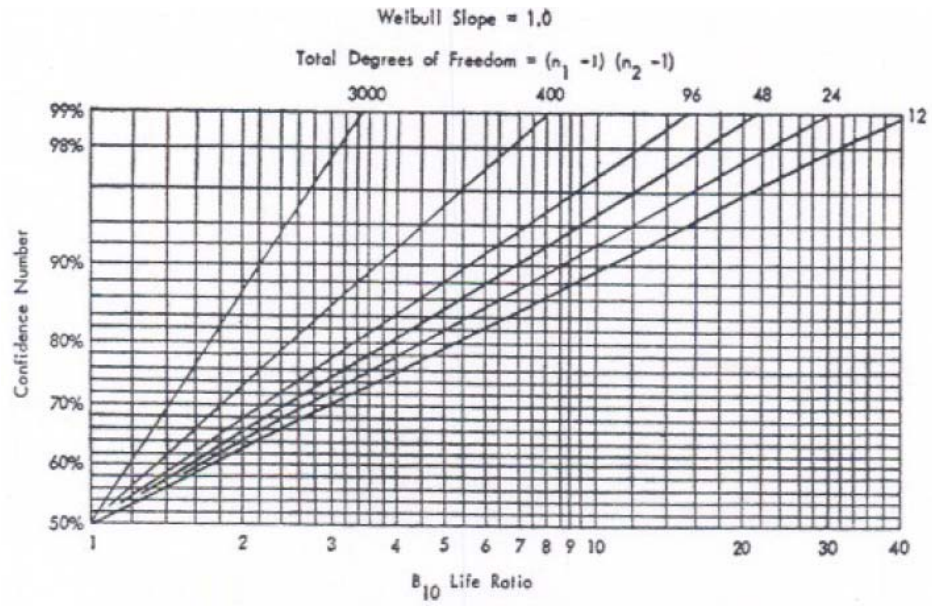


Figure 4: Confidence number figure at  $m=1.0$  as produced by Johnson (Johnson 1964)

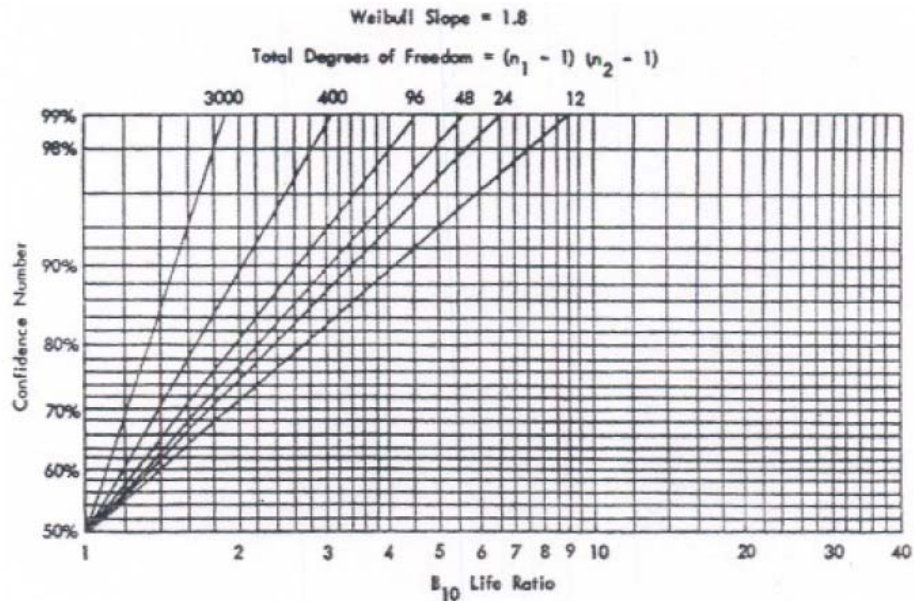


Figure 5: Confidence number figure at  $m=1.8$  as produced by Johnson (Johnson 1964)

Confidence number figures are used like design curves to determine confidence numbers at the appropriate combination of degree of freedom and slope. If the two population



sizes being compared differ, the Confidence number must be determined at each of the two respective degrees of freedom, and the two values are averaged (Johnson 1964).

One problem arises when the desired degree of freedom and/or slope fall outside of those for which the figures are created. When this is the case it becomes necessary to graphically interpolate between degree of freedom confidence curves and/or between figures when the slope does not equal one of the ones Johnson used. This results in an increased amount of error and therefore a decreased level of confidence in the values determined.

In 2008 Vlcek, Hendricks, and Zaretsky developed an algebraic equation with which Johnson Confidence numbers could be calculated without graphically interpolating between Johnson's figures (Vlcek et. al. 2008). This equation was empirically developed to allow for Weibull parameters that fell on and between the figures developed by Johnson. This equation was found to produce confidence numbers that deviated less than 1% of those determined graphically, and were experimentally verified using rotational aluminum fatigue failure data. The problem with this work remained that the algebraic formula continued to rely on Johnson's figures.

While Johnson's Confidence Number figures have been used extensively for over 35- yrs by researchers at NASA, the Army Research Lab, and in academia (Townsend and Zaretsky 1980), (Zaretsky, Lewicki, Savage, and Vlcek 2007), (Parker and Zaretsky 1978), (Vlcek et. Al. 2003), their origins are clouded in some obscurity. Johnson briefly describes the process he used to create the figures (Johnson 1964), and then refers the reader to an internal GM technical report for a detailed presentation of the theory

(General Motors Research Report no. ME-1-68). The problem is, the GM report is no longer available through the GM Research Library. A group at NASA spent several weeks in 2010 unsuccessfully trying to recreate Johnson's figures. While some insights were gained as to how Johnson may have averaged his results together, the exact figures were never fully reproduced (Robert C. Hendricks (Senior Technologist, NASA Glenn Research Center), in discussion with the author, July 2010).

The goal of this work therefore became to establish a Weibull-based method for determining confidence numbers without being bound to the figures published by Johnson. The overwhelming number of samples necessary to experimentally generate Confidence numbers, made such an approach unreasonable. For example, if a reasonable population size of 10 was selected for each population being compared, ten samples each would be required to establish  $L_{10}$  lives to be compared. This process would then have to be repeated one hundred times, thus, two thousand fatigue failures total would be necessary to establish a single confidence number. In an attempt to minimize the number of actual fatigue experiments required a Monte Carlo method was used to simulate fatigue lives that were in turn used to determine  $L_{10}$  lives, with which Confidence Numbers were determined.

#### Overview of the Monte Carlo Model

The Monte Carlo method as its name implies is based upon randomness or chance. A mathematic model is developed that reasonably reflects the physical value being simulated—in this case fatigue life. By formulating a game of chance to produce a random distribution of values based on the simulated value it becomes possible to draw an approximation of the expected values from the resulting distribution (Bauer 1958).

The model typically requires one (or multiple) random inputs as well as physical property inputs. Typically, the random number generating capability of a computer is used to generate the random input. The entire process is then repeated a statistically significant number of times (often time as many as 10,000 trials) to establish reliable trends in the model output.

Monte Carlo based simulations are very common for applications where random statistical modeling is required. A paper published by Hoshide and Kusuura utilizes this modeling method for simulating fatigue crack growth propagation (Hoshide and Kusuura 1998). In this work the Monte Carlo method is part of an algorithm in which notched samples are subjected to uniaxial loading. A Monte Carlo model was utilized in this work to randomly simulate microstructures of different metallic specimens in order to analyze cracking patterns which result in fatigue failure. The ability to utilize expected or previously observed trends or values as inputs to a Monte Carlo model make it a very attractive alternative to time consuming calculations. In a study of the size effect of ferroelectric nanostructures completed by Xue, Gao, and Liu a Monte Carlo model was employed for just this purpose (Xue, Gao, and Liu 2009). By simulating lattice growth under finite boundary conditions utilizing based on the Landau Phenominological model it became possible to observe the growth patterns of ferroelectric domain structures (Xue et. al. 2009). By avoiding the need to solve large time-dependent Ginzberg-Landau equations the Monte Carlo model made it possible to simulate extremely large ferroelectrics.

## Weibull-Based Monte Carlo Virtual Bin Model

A Weibull-based Monte Carlo Simulation of fatigue life based upon a “bin” model developed by Vlcek, Hendricks and Zaretsky was used to determine computer generated fatigue lives of rolling element bearings (Vlcek, Hendricks, and Zaretsky 2003). The premise of the ‘bin’ model is that there are two virtual bins, bin-A and bin-B, of 1,000 failed parts each that have failed as a result of fatigue. Every part in the bins has failed and there were no suspensions. The actual number of cycles survived by each of the components is not currently known but the order of failure of one to another is assumed to be known. In this case the ranking of 1 is the shortest lived and the ranking of 1,000 is the longest lived. As an example, if a component with order number 516 was pulled from a bin it would be known that this component survived longer than 515 other components in the bin, and in turn, 485 components also had longer lives.

The randomly pulled order numbers are listed sequentially from smallest to largest, and corresponding median ranks are calculated. The median rank value is approximated by

$$\text{Median Rank (MR)} = \frac{j - 0.3}{n + 0.4} \quad \text{Equation 2}$$

Where j equals the order number and n equals the total size of the population (1,000 for this bin model). The median rank, in turn is related to the survivability in the Weibull equation (Eq 1) by

$$S = 1 - \text{Median Rank} \quad \text{Equation 3}$$

Knowing the survivability corresponding to each order number randomly pulled and the Weibull parameters of slope ( $m$ ) and characteristic life ( $L_\beta$ ) the corresponding fatigue life can be found by solving for the only unknown in the Weibull Equation (Equation 1).

Each of the determined fatigue lives was “plotted” on Weibull distribution paper and a least square fit of the data was used to determine the  $L_{10}$  life. While practitioners in the past had to meticulously plot the data on Weibull distribution paper, it is now possible to carry out the process within a non-graphical computer program or commercial spreadsheet.

To illustrate this process consider the following example. Assume 5 numbers between 1 and 1,000 are generated randomly whose values are as follows: 268, 791, 84, 567, 149. The numbers would be arranged in numerical order from smallest to largest and assigned an order number as shown in Table 1:

TABLE 1: RANDOM NUMBERS AND THEIR CORRESPONDING RANK NUMBERS.

| <b>Rank Number</b> | <b>Random Number</b> |
|--------------------|----------------------|
| 1                  | 82                   |
| 2                  | 149                  |
| 3                  | 268                  |
| 4                  | 567                  |
| 5                  | 791                  |

Using these rank numbers it is then possible to calculate the Median Rank value using Equation 2. These values are displayed in Table 2.

TABLE 2: MEDIAN RANK CORRESPONDING TO RANDOMLY GENERATED NUMBERS.

| Rank Number | Random Number | Median Rank |
|-------------|---------------|-------------|
| 1           | 82            | 0.1296      |
| 2           | 149           | 0.3148      |
| 3           | 268           | 0.5000      |
| 4           | 567           | 0.6852      |
| 5           | 791           | 0.8704      |

The next step is to utilize the relation for Median Rank and Survivability from Equation 3 to make it possible to begin solving the two parameter Weibull equation. First, recall Equation 1:

$$\ln \ln\left(\frac{1}{S}\right) = m \ln\left(\frac{L_s}{L_\beta}\right)$$

The left side of the equation can be solved by substituting S with 1-MR.

$$\ln \ln\left(\frac{1}{1 - \text{MR}}\right) = m \ln\left(\frac{L_s}{L_\beta}\right) \quad \text{Equation 4}$$

In normal application the slope (m) and characteristic life ( $L_\beta$ ) would be calculated from experimental data but for this example they will be chosen at  $m=2.0$  and  $L_\beta=50,000$ . At this point the only remaining unknown in the Weibull equation is the life at S ( $L_s$ ) which can be solved for algebraically for each random input. These life values can be seen in Table 3.

TABLE 3: CALCULATED LIFE CORRESPONDING TO RANDOMLY GENERATED NUMBERS.

| Rank Number | Random Number | Median Rank | Life ( $L_s$ ) |
|-------------|---------------|-------------|----------------|
| 1           | 82            | 0.1296      | 18,630         |
| 2           | 149           | 0.3148      | 30,744         |
| 3           | 268           | 0.5000      | 41,628         |
| 4           | 567           | 0.6852      | 53,753         |
| 5           | 791           | 0.8704      | 71,468         |

It is then possible to create a Weibull plot using the data calculated from which the probability of failure at any corresponding life value can be read. This Weibull plot is displayed in Figure 6.

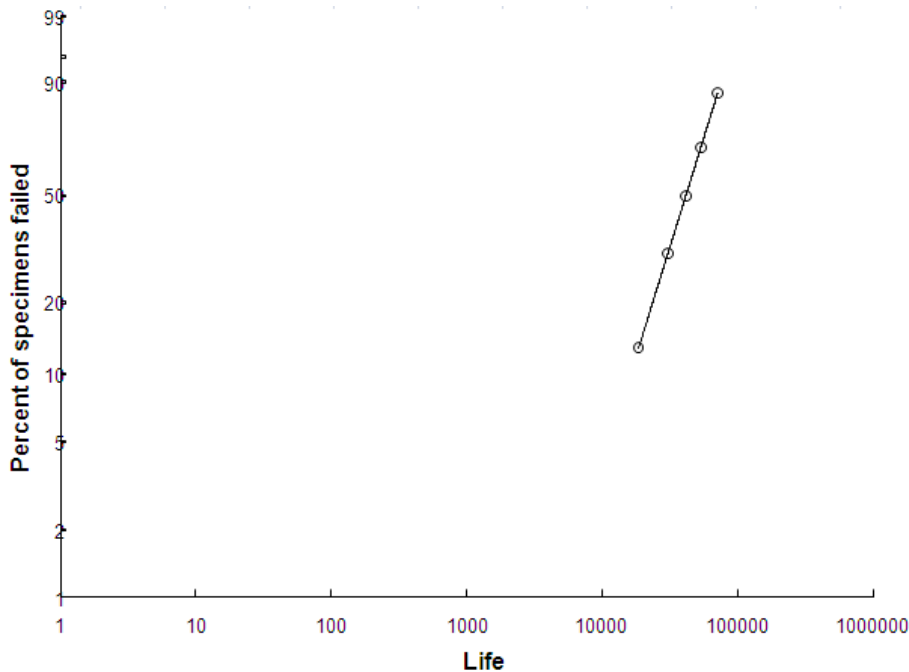


Figure 6: Weibull Probability plot created using randomly generated numbers at  $m=2.0$  and  $L_{\beta}=50,000$ .

This entire process would then be carried out for a second sample population sizes corresponding to  $n_2$ .

Since its first use in 2003, the Weibull-based Monte Carlo “bin” model used in this study to generate fatigue lives (Vlcek, 2003) has been used to study a number of other engineering systems. The original study demonstrated the decreasing variability in fatigue life with increasing sample population size with which the  $L_{10}$  life was calculated. Field data was used for validation of the model. Vlcek et. al. next used the Monte Carlo

simulation of fatigue life to study sudden death bearing testing (Vlcek, 2004). Sudden death testing is a form of accelerated benchtop testing, where multiple tests are run simultaneously until the first failure, then all testers are reset with new samples, and the process repeated until the total number of samples are run. With appropriate shifting of the data (Johnson, 1964) these reduced number of failures have the same accuracy as if every bearing was tested to failure. The failure of angular contact bearings was simulated using the Monte Carlo bin model (Vlcek 2004). The bin model was again successfully used to generate fatigue lives for a complex turboprop gear box with 21 components (Zaretsky, 2007). In 2010, Vlcek et. al. used the Weibull-based Monte Carlo bin model to generate fatigue lives for a preliminary study comparing the processing of rolling element bearing materials (Vlcek, 2010). In the same year, Vlcek and Murray modified the simulation to account for suspensions of tests (unanticipated premature termination of an experiment) in the study of two gear data sets (Vlcek and Murray 2010). With proper programming implementation, the fatigue lives generated using this model will be key in simulation confidence numbers in this study.

### Summary

Fatigue life is a probabilistic value that has been observed to cause failure of metallic parts when they are repeatedly subjected to stresses below the yield strength of the materials. Weibull developed a statistical method for evaluating the fracture strength of materials using mathematical distribution model by empirically fitting a distribution to a small set of fatigue data (Weibull 1951). Using this small set of experimental values it is possible to utilize the Monte Carlo model to generate random numbers to be used as



inputs to the two parameter Weibull equation. By using the Monte Carlo model to generate a random distribution of values based on the simulated value it becomes possible to draw an approximation of the expected values from the resulting distribution (Bauer 1958). A virtual bin model developed by Vlcek, Hendricks, and Zaretsky can be used to simulate drawing samples from a bin of failed components (Vlcek et al, 2003). Drawing components from the virtual bin is simulated using Monte Carlo generated values of rank which are then converted to lives using the two parameter Weibull equation.

## CHAPTER 3 METHODOLOGY

### Introduction

It is the intended purpose of this work to (a) generate confidence numbers independent of Leonard Johnson's figures using a Weibull-based Monte Carlo Model, (b) to create confidence number figure's for similar use as but independent of Johnsons' using the Monte Carlo Model and independent of positioning of confidence bands as a method of technique validation, and (c) to use the results of a published experimental study by Zaretsky et. al. as experimental inputs to the model and to compare the results of the Confidence Number techniques. The generic methodology observed is as follows.

- (1) Write a Visual Basic macro to run a Weibull-based Monte Carlo simulation of fatigue life based upon an established "bin-model".
- (2) Run the macro repeatedly to produce large populations of simulated fatigue failure, L10 lives, L10 life comparisons, confidence numbers, and life ratios which can be used to rank fatigue lives or from which confidence curves can be created.
- (3) Establish the necessary population size to run the simulations with statistical certainty
- (4) Compare macro outputs to previously proven generation methods (including hand calculations) in order to validate the method.
- (5) Create confidence number figures independent of those originally published by Leonard Johnson, and compare to Johnson's further validate the Monte Carlo based method.

(6) Create figures independent from Johnson to establish the Weibull-based Monte Carlo method for relatively ranking fatigue lives of populations as a new, comparable method that eliminates the need for graphical interpolation.

(7) Use experimental Weibull values generated by Parker and Zaretsky (Parker et al 1978) as inputs to the macro to validate the method experimentally.

In order to simulate the probabilistic nature of fatigue failure it was necessary to utilize a probabilistic failure model. The simulation model used here-in was a previously developed Weibull-based Monte Carlo simulation method based upon a failed “bin” model (Vlcek et. al. 2003). In the “bin” model, it is assumed that you have a container or virtual bin of failed identical parts. At the start, you do not know the actual fatigue failure life of each part, but you do know the parts can be ordered or ranked from shortest to longest fatigue life. This ranking will serve as the random input to the Monte Carlo simulation. As stated by Vlcek, Hendricks, and Zaretsky, Monte Carlo modeling establishes behavioral trends by repeatedly providing randomly generated inputs a sufficiently large enough number of times into a mathematical model (Vlcek et. al. 2010). While it may not be possible to determine absolute values, comparative trends are achievable using this model. In this case, the randomly numbers make it possible to generate a list of ranks relative to the rest of the population. These randomly generated ranks serve as the random input of survivability in the two parameter Weibull equation (Equation 1) which serves as the mathematical model in this simulation. Experimentally generated values of slope and characteristic life are also inputted into the model.

A confidence number represents the probability that a component drawn from one sample set is going to be longer lived than one drawn from a different set if the process is repeated 100 times. In this case it is the probability that a component drawn out of Bin-A will have a longer life than one drawn from Bin-B. To determine the Confidence Number the  $L_{10}$  lives of the two populations are compared. This value is represented as a probability out of 100. Therefore, it can be determined experimentally by comparing one hundred  $L_{10}$  lives generated from Bin-A to one hundred  $L_{10}$  lives generated from Bin-B. For example, if one hundred Monte Carlo generated  $L_{10}$  lives were compared from Bin-A and Bin-B and it was found that the Bin-A  $L_{10}$  life was greater 92 out of the 100 times then the corresponding Confidence Number would be 0.92. This would represent a 92% probability that a component drawn from Bin-A would out live a component drawn from Bin-B at the specified level of survivability—usually  $L_{10}$  or mean life. It is not known how much longer lived the population A components will always be, only that they will be longer lived. Due to the probabilistic nature of this process it is not sufficient to generate a confidence number only one time. For this process 10,000 confidence numbers were generated and compared for each combination of populations sizes ( $n_1$  and  $n_2$ ) compared.

In order to produce confidence curves, it was first necessary to generate numerous confidence numbers at a given degree of freedom. The total degree of freedom (TDOF) represents the number of parameters which may be independently varied (Vlcek et. al., 2010). It is already possible to graphically determine confidence numbers using the work generated by Johnson in the 1960's. , The use of these figures, however, requires that the Weibull slope for the data be at one of the prescribed slopes (1.0, 1.2, 1.4, 1.6,

1.8, 2.0) and that the total degree of freedom be equal to one the values Johnson used (12, 24, 48, 96, 400, 3000) (Johnson, 1964). If these two conditions are not met then a cumbersome graphical interpolation between figures is required which will undoubtedly lead to error. In order to be able to relatively rank populations at any slope and degree of freedom it was necessary to develop a methodology that allowed these values to be set as inputs rather than being defined at set values.

Since one of the validation techniques was to compare the confidence number figures generated to those published by Johnson, it was necessary to generate data for the first simulations using the same inputs as Johnson's to illustrate that the methodology was producing values that are within an acceptable range of Johnson's values. The Weibull equation inputs that were set equal to those used in Johnson's work were total degree of freedom (TDOF) and Weibull slope ( $m$ ) for both data sets  $n_1$  and  $n_2$ . Confidence number figures (independent of Johnson's) were generated for Weibull slopes of 1.0 and 1.8 and total degrees of freedom of 1.0, 1.2, 1.4, 1.6, 1.8, and 2.0.

For the initial test runs the slope and the characteristic life ( $L_\beta$ ) were both set constant throughout the entire process. The method of choosing arbitrary characteristic life values is acceptable for this process because in Johnson's figures the abscissa values are life ratios. Therefore as long as  $L_{\beta,1}$  and  $L_{\beta,2}$  were chosen to produce a ratio significantly greater than 1, then the actual numerical values should have no effect on the outcome. By keeping the characteristic life values constant, the number of variables being studied was minimized. The characteristic lives were chosen to ensure a great enough difference in magnitude to ensure a statistical difference in the  $L_{10}$  outputs of the program between

the two sample sets. The two characteristic lives ( $L_{\beta 1}$  and  $L_{\beta 2}$ ) used throughout the first part of this study were 10,000 and 40,000.

A typical methodology will now be explained using a TDOF 96 as an example case. The TDOF is defined mathematically as:

$$TDOF = (n_1 - 1)(n_2 - 1) \quad \text{Equation 5}$$

Where  $n_1$  and  $n_2$  are the corresponding sample sizes that are used to generate the necessary data. where in physical testing the samples sizes would correspond to the number of failed components being examined. As stated previously, the total degree of freedom is considered to be the number of parameters which may be independently varied or selected. To illustrate a case in which  $n=10$  imagine a bin contains parts numbered 1 thru 10. If 1 part is drawn out of the bin this would leave 9 parts remaining in the bin to be chosen from (or independently varied). This situation leaves you with a degree of freedom of 9 or  $n-1$  (Vlcek et. al., 2010). Hence for a TDOF of 96 all possible combinations of sample sizes that result in  $(n_1-1)(n_2-1)$  equaling 96 would be considered. Table 4 contains the possible combinations for a TDOF of 96.

TABLE 4: CALCULATED LIFE CORRESPONDING TO RANDOMLY GENERATED NUMBERS.

| $n_1$ | $n_2$ | $TDOF=(n_1-1) \times (n_2-1)$ |
|-------|-------|-------------------------------|
| 3     | 49    | 96                            |
| 4     | 33    | 96                            |
| 5     | 25    | 96                            |
| 7     | 17    | 96                            |
| 9     | 13    | 96                            |
| 13    | 9     | 96                            |
| 17    | 7     | 96                            |
| 25    | 5     | 96                            |
| 33    | 4     | 96                            |
| 49    | 3     | 96                            |

The impact of population size on variability in life was briefly discussed in the introduction. The impact on the model for small  $n$  values such as 3, 4, 5 and even 7 will be observed in the findings.

Once the population sizes ( $n_1$  and  $n_2$ ) are established, the Weibull-based Monte Carlo bin-model is used to generate that number of simulated fatigue lives. Both sets of data are “plotted” on Weibull distribution graphing paper, and a least square fit is used to determine the  $L_{10}$  life corresponding to each set of data ( $L_{10,1}$  and  $L_{10,2}$ ). The term “plotted” is used loosely. While the data can be hand-plotted on Weibull distribution paper and values read from a least square fit of the plotted points, a similar computational method can be programmed into a macro to mathematically determine the same results.

The entire process is then repeated one hundred times to determine one hundred  $L_{10}$  values corresponding to population 1 and one hundred correspond to population 2. The  $L_{10}$  values in turn are sequentially (as they were randomly created) compared to determine the number of  $L_{10}$  values corresponding to population 1 that are greater than that corresponding to population 2—a single confidence number is thus arrived at.

#### Establishing the Necessary Number of Trials

The entire process described up to this point has been in an effort to establish a confidence number that one population of components will outlive another population. Unfortunately it is not statistically significant to produce a single confidence number and expect that one number to have statistical significance. In order to establish an acceptable level of statistical certainty or significance in the outputs it was necessary to produce many confidence numbers then average them. Early on in the process it was

necessary to establish how many loops of the program would have to be run in order to establish statistical certainty in the data. A bit of trial and error was necessary to determine how many iterations were necessary to establish this certainty by minimizing changes in the output. Since the slope ( $m$ ) in the Weibull equation represents the level of scatter in the data it was used as an indicator of statistical certainty. The Weibull slope and degree of scatter are inversely proportional therefore a high slope corresponds to a low degree of scatter and a lower slopes corresponds to a high degree of scatter in the data. Rolling element bearing typically have a slope around 1.1, while Gaussian distributed data have a slope of 3.57. At the beginning of the process the slope was set as a fixed input into the Weibull calculations, so after the Monte Carlo simulation was run the calculated slope could be compared to the input slope. When using small numbers of runs the scatter would be large which would result in the calculated slope differing from the input slope by a large amount. At 500 cycles the calculated slope typically differed from the input by a magnitude of about 0.1. As the number of iterations was increased the amount of scatter declined. This was illustrated by running numerous simulations until an acceptable average slope was produced. For this process the input Weibull slope was set at 1.8. For the first sample population of five-hundred  $L_{10}$  lives for two different sample sizes,  $n_1=9$  and  $n_2=7$ , the corresponding output slopes were 1.73 and 1.70 respectively. For the second run a population of 2340  $L_{10}$  lives was generated for the same population sizes and the resulting slope values were 1.77 and 1.83 respectively. Finally, a population of ten-thousand  $L_{10}$  lives was calculated for the same population size and this produced output slopes of 1.79 and 1.81 respectively. A summary of the different population sizes and their resulting slopes can be seen in Table 5.



TABLE 5: RESULTS OF RUNNING DIFFERENT POPULATION SIZES TO ESTABLISH NUMBER OF RUNS NECESSARY TO ENSURE STATISTICAL CERTAINTY

| Input Weibull Slope | Number of $L_{10}$ Lives Generated | Resulting Weibull Slope |         |
|---------------------|------------------------------------|-------------------------|---------|
|                     |                                    | $n_1=9$                 | $n_2=7$ |
| 1.80                | 500                                | 1.73                    | 1.70    |
| 1.80                | 2,340                              | 1.77                    | 1.83    |
| 1.80                | 10,000                             | 1.79                    | 1.81    |

As illustrated in Table 5 it takes a very large number of simulations, 10,000 in this case, to produce results that can be considered statistically significant. When calculating the data to generate the confidence curves enough Monte Carlo simulations were run to produce ten-thousand confidence numbers at each sample size combination for the specified degree of freedom. In addition, it took the production of one hundred  $L_{10}$  lives to produce one confidence number. So in order to produce an acceptable level of statistical certainty in the confidence number figures one-million  $L_{10}$  lives were generated for each population size ( $n$ ).

#### The Visual Basic Program

Due to the large amount of data that was required for this work, and the majority of fatigue failure analysis, it was not feasible to generate this data through laboratory testing. In order to generate the confidence number figures using experimental data it would first be necessary to test the number of samples,  $n_1$  and  $n_2$ , to failure for each combination shown in Table 1 which alone would require 165 samples. This would result in being able to calculate 1  $L_{10}$  life for each different  $n_1$  and  $n_2$  value. It would then be necessary to generate 100  $L_{10}$  lives for each  $n_1$  and  $n_2$  value which would raise the number of experimental failures required to 16,500. Generating this number of failed samples would make it possible to calculate one confidence number for each combination

of sample sizes. Then in order to establish an acceptable level of statistical certainty in the results it would be necessary to generate 10,000 confidence numbers for each combination of sample sizes. Ultimately in order to produce a single confidence number figure for a TDOF of 96 at a single Weibull slope it would be necessary to test 165,000,000 samples to failure. To overcome this problem Monte Carlo simulations were run utilizing Visual Basic (VB) interfaced with Microsoft Excel. This allowed for the user to input values into a spreadsheet, the program then runs using these inputs, and the program outputs values to a spreadsheet.

A VB program (oftentimes called a macro) was written within Excel using visual basic that made it possible to simulate pulling samples from a large bin of components that had failed due to fatigue. It is important to note here that all of the components have failed and there were no suspensions in the bins. A suspension is a situation that arises when a test is interrupted before the test specimen reaches the point of failure. The macro simulated the random pulling of failed components using Monte Carlo random number generation, these random numbers, which represented relative rankings among the other samples pulled were then put in order from smallest to largest by magnitude, the rankings were then used as inputs to the Weibull equation making it possible to calculate confidence numbers. A general outline of the program logic can be found in the flow chart in Figure 7 and is explained in detail thereafter.

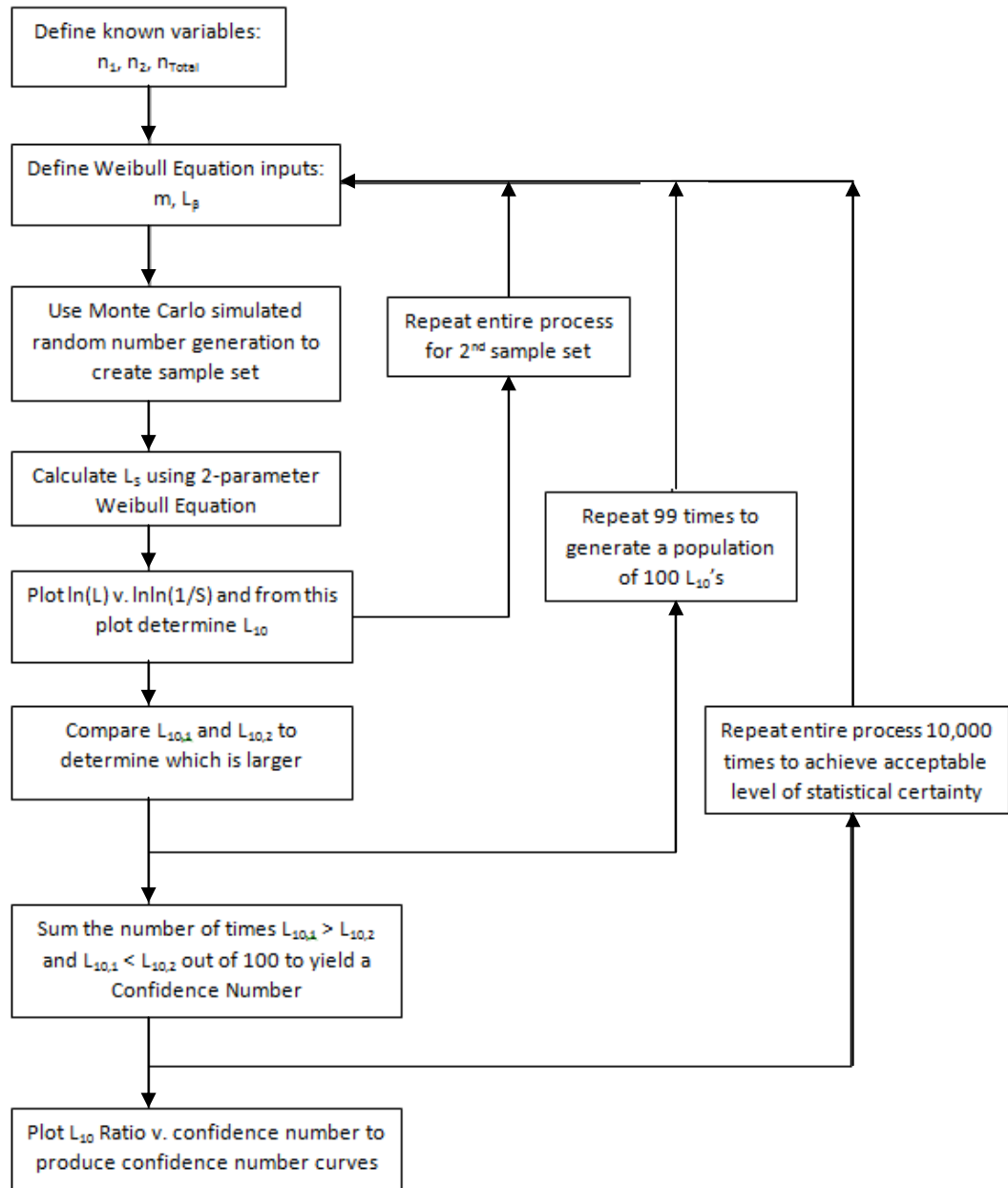


Figure 7: Flow chart of general Monte Carlo based macro logic

Within the VB program (or Excel macro), variables are either assigned a specific value, or the user can input values into the spreadsheet and these values are read by the program. Variable names are assigned arbitrarily and then defined by a simple equals statement. The variables are thus assigned numeric values, which later can be used in

algebraic calculations or assigned as values in cells. There are two different methods for defining the value of a variable. The first is to simply assign it a numerical value. The second method is to define the value of a variable as a given cell in the spreadsheet and then assign the value of the cell to the variable within the program. In this case the current value of the specified cell becomes the numeric value of the variable. A portion of a screenshot from the Excel file which contains the VB macro can be seen in Figure 8. Cells B1:B9 are cells which contain variable inputs to the macro as assigned by the user.

|    | A              | B     | C |
|----|----------------|-------|---|
| 1  | # of runs      | 100   |   |
| 2  | $n_1$          | 40    |   |
| 3  | $n_2$          | 40    |   |
| 4  | $n_{total}$    | 1000  |   |
| 5  | $m_1$          | 1.8   |   |
| 6  | $m_2$          | 1.8   |   |
| 7  | $L_{\beta 1}$  | 10000 |   |
| 8  | $L_{\beta 2}$  | 40000 |   |
| 9  | Confidence Pop | 5     |   |
| 10 |                |       |   |
| 11 |                |       |   |

Figure 8: Screen shot of macro input cells from Excel

Total number of  $L_{10}$  lives to be generated is input by the user in Cell B1, the sample sizes  $n_1$  and  $n_2$  are defined in cells B2 and B3, the total population size is defined in cell B4, the Weibull slope and characteristic life are to be input into cells B5:B6 and B7:B8 respectively, and the user is to define the number of confidence numbers to be solved for in cell B9. While the total number of confidence numbers calculated for each

combination of variables was 10,000 throughout this work it was not possible to calculate that many at one time due to computer memory limitations. Depending on the TDOF value, it was only possible to calculate from 1,250 to 2,000 confidence numbers at a time. The inputs described in Table# are the only parameters that the user must specify before the simulation can be run. Everything else is calculated automatically within the VB macro. Once all of the inputs were specified and the command was given to start the program it would take anywhere from 3 to 6 hours for the entire process to be completed for 1250-2000 confidence numbers. This resulted in total run times of 15 to 48 hours per different set of Weibull parameters and 10,000 total runs. In order to generate the confidence number figures for some of the larger sample size and characteristic life combinations the total run time required reached up to 85 hours per single combination of Weibull parameters. In order to complete the number of simulations necessary for this work in allowable reasonable time frame it was necessary to run simulations simultaneously on up to 90 computers at a time. This was accomplished by running simulation afterhours on all of the computers in ENGR 2104, 2120 and 2122. Once the simulations were complete the Excel file size could reach 600MB per file and the combined files required to produce one confidence number figure reached sizes upward of 10GB. To archive all of the simulations in this study required over 175 GB of space on an external hard drive.

In order to generate the confidence numbers it was necessary to simulate the random pulling of failed components out of the virtual bin of one-thousand failed components. To accomplish this, a random number generator was written into the program that would randomly draw a number between one and one-thousand. One thousand was selected as

an arbitrarily large population, and was what Vlcek et. al. (Vlcek, 2003) used in their work. As values were randomly drawn from the virtual bin, the code ensures that the number being drawn did not equal a number previously drawn for that data set. This is important since the simulation represents drawing from a bin which contains a finite number of components because if components were drawn from a real bin and the component corresponding to rank number 546 were drawn it would not be possible to draw this component again until the entire set was drawn and the components were returned to the bin.

In one of the early versions of the Visual Basic macro the coding was not put in to ensure that the numbers drawn for the same set were not repeated. Instead a simple random number generating command was written that drew and printed random numbers between 1 and 1,000. At first this error was not noticed because in drawing small sample populations it is not statistically likely that the same number will be drawn twice so it very rarely happened and was not noticed. Ultimately this error was recognized and a loop, shown in Figure 9, was inserted that would check each random number drawn against the other numbers previously drawn for that population.

```

For rndpop1 = 1 To n1
mark1:
Calculate
  rndnu = Cells(1, 4) 'Prints random # to cell A4
  For RndCheck1 = 1 To num1 'Checks random # against first # already drawn
    Checknum1 = ActiveSheet.Cells(RndCheck1 + 5, 6)
    If rndnu = Checknum1 Then GoTo mark1 'If random # is a repeat go to mark1
  Next RndCheck1 'Continues to check all random # already drawn
  Cells(rndpop1 + 5, 6) = rndnu 'Prints random # to next cell if it is found to be unique
  num1 = num1 + 1
Next rndpop1

```

Figure 9: Original VB random number generating loop

This macro subroutine loop required that a number be drawn and then individually compared to all numbers already drawn and stored in the spreadsheet. If it was found that the number was a repeat it would be discarded, a new number would be drawn, and the process would repeat until an unused number was drawn. A problem arose when it was realized that this slowed the running of the program down considerably to the point that large population size simulations were no longer reasonable due to computer processor limitations. It was later realized that the time it took the computer to run a single loop of the program was increasing by 35 seconds for each additional run. In other words the first loop would run in 35 seconds, the second would run in 70 seconds, the third in 105 seconds, etc. This was most likely due to Visual Basic loading a library routine each time numbers being drawn and checked were being held in the memory of the computer and in turn reducing its processing speed. Ultimately a method of generating a list of non-repeating numbers between 1 and 1,000 was found

(<http://support.microsoft.com>) which made use of array logic rather than a generating loop. The program command to accomplish this can be seen in Figure 10.

```
'Loop generates random numbers
Dim x As Long, y As Long, z As Long, tempnum As Long
  Dim flag As Boolean
  Dim i As Integer
  Dim foundCell As Range
  x = 1
  y = 1000
  z = n1
Randomize
Cells(6, 6) = Int((y - x + 1) * Rnd + x)
For i = 6 To z + 5
  Do
    flag = False
    Randomize
    tempnum = Int((y - x + 1) * Rnd + x)
    Set foundCell = Range("f6", _
      Range("f6").End(xlDown).Address).Find(tempnum)
    If Not (foundCell Is Nothing) Then
      flag = True
    End If
  Loop Until Not flag
  Cells(i, 6) = tempnum
Next
```

Figure 10: Non-repeating random number generating command used in final macro

The output of this routine was compared to that previous generated in a test case, and the results were found to be similar, although the processing time did not change with the number of iterations of the loop.

The number of random numbers that was drawn in each case was equal to the sample size that corresponded to each  $n_1$  and  $n_2$  for the desired degree of freedom for the case



being examined. Utilizing the code in Figure # resulted in average time to generate 100  $L_{10}$  lives ranging from 5 to 15 seconds depending on the input parameters.

Once the desired population size of random numbers was generated for each sample set it was necessary to list these numbers in order of ascending magnitude which corresponded to their failure rank among the rest of the numbers in the randomly pulled population. The VB code in Figure 11 simulates putting the components in the order that they failed from the least number of cycles survived to the greatest.

```
'Sorts random #'s from smallest to largest
Range(Cells(5, 6), Cells(n1 + 5, 6)).Select ' put the range here
Selection.sort Key1:=Range("F5"), Order1:=xlAscending, Header:=xlGuess, _
OrderCustom:=1, MatchCase:=False, Orientation:=xlTopToBottom
```

Figure 11: VB code to arrange list of random numbers in ascending numerical order

It is important to note again at this point that the random numbers do not represent the number of cycles to failure, but rather the relative order ranking compared to the other one-thousand failed components. The order number in turn is converted to a median rank value using equation # and a survivability probability using equation #. Knowing the survivability probability and the experimental Weibull parameters (slope and characteristic life) the fatigue life corresponding to the original order number can be calculated using the Weibull equation. Figure 12 contains the code from the visual basic program which produces the median rank of one of the random numbers drawn and assigns this value to a corresponding cell in the spreadsheet.

```
medran = ((Cells(srun, horiz + 1) - 0.3) / (ntotal + 0.4))
Cells(srun, horiz + 2) = medran
```

Figure 12: VB code used to calculate Median Rank for 1 random number

Once S was obtained it was possible to solve the left side of the Weibull equation by taking the natural logarithm of the natural logarithm of the survivability (S). The visual basic program code for this calculation can be seen in Figure 13.

```

life = 1 / (1 - Cells(srun, horiz + 2))
Llife = Application.WorksheetFunction.Ln(life)
LLlife = Application.WorksheetFunction.Ln(Llife)
Cells(srun, horiz + 3) = LLlife

```

Figure 13: VB code used to calculate Survivability (S) from Median Rank

At this point the only remaining unknown in the Weibull equation was  $L_S$  which is solved for in Equation 6.

$$\ln \ln \left( \frac{1}{S} \right) = m \ln \left( \frac{L_S}{L_\beta} \right)$$

$$L_S = e^{\left[ \ln(L_\beta) + \frac{\ln \ln \left( \frac{1}{S} \right)}{m} \right]}$$

Equation 6

$L_S$  was solved for in the program using the commands in Figure 14.

```

LLverm = Cells(srun, horiz + 3) / mslope
ELLverm = Exp(LLverm)
Ls = LB1 * ELLverm
Cells(srun, horiz + 4) = Ls

```

Figure 14: VB code used to calculate  $L_S$

The natural logarithm of  $L_S$  was the next value that was solved for.

$$\ln(L_S)$$

The natural log of  $L_s$  was plotted against the natural log of the natural log of the inverse of survivability for the purpose of solving for the  $L_{10}$  life. The natural log of  $L_s$  was found using the code sequence in Figure 15.

```

lnL10 = (-2.25037 + yint) / slp
L10 = Exp(lnL10)
ActiveSheet.Cells(3, 10) = L10

```

Figure 15: VB code used to calculate  $\ln(L_s)$

The result of these calculations being carried out for each random number was a set of values corresponding to the natural log of the natural log of the inverse of survivability, which corresponded to the probability of failure at a given life, and a set of values corresponding to the natural log of the life.  $\ln\ln(1/s)$  could then be plotted as the ordinate against  $\ln(L_s)$  as the abscissa to generate a curve from which the  $L_{10}$  life could be found. Instead of plotting each data point and graphically determining the  $L_{10}$  life a sequence was written into the VB program (Figure 16) to solve for this value.

```

'Calculate Weibull Values
S2 = Application.WorksheetFunction.LinEst(Range(Cells(6, 12), Cells(n1 + 5, 12)),
Range(Cells(6, 11), Cells(n1 + 5, 11)), True, True)
ActiveSheet.Cells(3, 8) = S2
I2 = Application.WorksheetFunction.Intercept(Range(Cells(6, 12), Cells(n1 + 5, 12)),
Range(Cells(6, 11), Cells(n1 + 5, 11)))
ActiveSheet.Cells(3, 9) = I2
slp = ActiveSheet.Cells(3, 8)
yint = ActiveSheet.Cells(3, 9)
lnL10 = (-2.25037 + yint) / slp
L10 = Exp(lnL10)
ActiveSheet.Cells(3, 10) = L10

```

Figure 16: VB code used to plot  $\ln\ln(1/S)$  as the ordinate vs  $\ln(L_s)$  as the abscissa in order to generate an  $L_{10}$  value for the current set of random numbers.

A partial screen shot of the Excel file in which the macro has been run can be seen in figure 17. The inputs and outputs from the Weibull equation for both sample sets,  $n_1$  and  $n_2$ , which include: random number (Rand#(j)), Median Rank (MR), the life calculated for the corresponding random number ( $L_S$ ), the natural log of the natural log of the inverse of survivability ( $\ln(\ln(1/S))$ ), the natural log of the life ( $\ln(L_S)$ ), median rank used for the plot ( $MR_{\text{plot}}$ ), and the natural log of the natural log of the inverse of survivability used for the plot ( $\ln(\ln(1/S))_{\text{plot}}$ ) are shown in Figure 17.

The entire process described previously was then repeated for the second set of values ( $n_2$ ) that corresponded to the current degree of freedom. Once the  $L_{10}$  life of both sample sizes was found they were compared to each other in order to determine which population had a longer life. This entire process was then repeated ninety-nine more times until there were one-hundred  $L_{10}$  lives for the first population and one-hundred  $L_{10}$  lives corresponding to the second population. It was then observed which population's  $L_{10}$  life was bigger than the other the most times out of the one-hundred runs, as the  $L_{10}$  lives were compared sequentially in the order that they were generated from 1 to 100. This number, out of one-hundred, could then be expressed as a confidence number-- where the confidence number is the number of times out of 100 that a  $L_{10}$  life of a population of components pulled from population A is expected to be longer lived than that pulled from population B or visa-versa. A logic statement was written into the program to determine which population was larger the most times out of 100. The commands to calculate one confidence number from a list of  $L_{10}$  values can be seen in Figure 18.

|    | A              | B     | C | D | E | F        | G        | H     | I       | J      | K                   | L                        | M | N | O        | P        | Q      | R       | S       | T                   | U                        |         |
|----|----------------|-------|---|---|---|----------|----------|-------|---------|--------|---------------------|--------------------------|---|---|----------|----------|--------|---------|---------|---------------------|--------------------------|---------|
| 1  | # of runs      | 100   |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |
| 2  | $n_1$          | 9     |   |   |   | Slope    | Y-Int    | L10   | Lmean   |        |                     |                          |   |   | Slope    | Y-Int    | L10    | Lmean   |         |                     |                          |         |
| 3  | $n_2$          | 13    |   |   |   | 4.03     | -36.9047 | 5421  | 8581    |        |                     |                          |   |   | 1.29     | -13.8528 | 7838   | 41185   |         |                     |                          |         |
| 4  | $n_{total}$    | 1000  |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |
| 5  | $m_1$          | 1.8   |   |   |   | Rnd# (j) | MR       | Ls    | ln(1/s) | ln(Ls) | MR <sub>pilot</sub> | ln(1/S) <sub>pilot</sub> |   |   | Rnd# (j) | MR       | Ls     | ln(1/s) | ln(Ls)  | MR <sub>pilot</sub> | ln(1/S) <sub>pilot</sub> |         |
| 6  | $m_2$          | 1.8   |   |   | 1 | 301      | 0.3006   | 5647  | -1.0286 | 8.6389 | 0.0745              | -2.5589                  |   |   | 1        | 57       | 0.0567 | 8251    | -2.8413 | 9.0181              | 0.0522                   | -2.9252 |
| 7  | $L_{s1}$       | 10000 |   |   | 2 | 333      | 0.3326   | 6047  | -0.9056 | 8.7073 | 0.1809              | -1.6120                  |   |   | 2        | 69       | 0.0687 | 9212    | -2.6430 | 9.1283              | 0.1269                   | -1.9976 |
| 8  | $L_{s2}$       | 40000 |   |   | 3 | 462      | 0.4615   | 7661  | -0.4797 | 8.9439 | 0.2872              | -1.0829                  |   |   | 3        | 85       | 0.0847 | 10398   | -2.4251 | 9.2493              | 0.2015                   | -1.4916 |
| 9  | Confidence Pop | 5     |   |   | 4 | 468      | 0.4675   | 7737  | -0.4617 | 8.9538 | 0.3936              | -0.6927                  |   |   | 4        | 135      | 0.1346 | 13662   | -1.9337 | 9.5224              | 0.2761                   | -1.1297 |
| 10 |                |       |   |   | 5 | 511      | 0.5105   | 8296  | -0.3364 | 9.0235 | 0.5000              | -0.3665                  |   |   | 5        | 344      | 0.3436 | 24734   | -0.8653 | 10.1159             | 0.3507                   | -0.8395 |
| 11 |                |       |   |   | 6 | 522      | 0.5215   | 8441  | -0.3051 | 9.0409 | 0.6064              | -0.0700                  |   |   | 6        | 363      | 0.3626 | 25678   | -0.7979 | 10.1534             | 0.4254                   | -0.5905 |
| 12 |                |       |   |   | 7 | 600      | 0.5995   | 9518  | -0.0889 | 9.1610 | 0.7128              | 0.2211                   |   |   | 7        | 398      | 0.3975 | 27419   | -0.6798 | 10.2190             | 0.5000                   | -0.3665 |
| 13 |                |       |   |   | 8 | 697      | 0.6964   | 11026 | 0.1757  | 9.3080 | 0.8191              | 0.5365                   |   |   | 8        | 786      | 0.7854 | 50824   | 0.4311  | 10.8361             | 0.5746                   | -0.1569 |
| 14 |                |       |   |   | 9 | 799      | 0.7984   | 12990 | 0.4709  | 9.4719 | 0.9255              | 0.9545                   |   |   | 9        | 828      | 0.8274 | 54700   | 0.5634  | 10.9096             | 0.6493                   | 0.0466  |
| 15 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   | 10       | 865      | 0.8644 | 58752   | 0.6920  | 10.9811             | 0.7239                   | 0.2523  |
| 16 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   | 11       | 874      | 0.8734 | 59865   | 0.7258  | 10.9998             | 0.7985                   | 0.4713  |
| 17 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   | 12       | 968      | 0.9673 | 79213   | 1.2299  | 11.2799             | 0.8731                   | 0.7249  |
| 18 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   | 13       | 988      | 0.9873 | 90718   | 1.4740  | 11.4155             | 0.9478                   | 1.0825  |
| 19 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |
| 20 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |
| 21 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |
| 22 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |
| 23 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |
| 24 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |
| 25 |                |       |   |   |   |          |          |       |         |        |                     |                          |   |   |          |          |        |         |         |                     |                          |         |

Figure 17: Excel screenshot of Weibull inputs and outputs generated for 1 set of random numbers

```

For conpopLm = 1 To noru
  If Cells(conpopLm + 1, confhLm + 5) > Cells(conpopLm + 1, confhLm + 6) Then cnt1Lm =
  cnt1Lm + 1
  If Cells(conpopLm + 1, confhLm + 6) > Cells(conpopLm + 1, confhLm + 5) Then cnt2Lm =
  cnt2Lm + 1
Next conpopLm

```

Figure 18: VB code used to calculate number of times out of 100 a populations  $L_{10}$  life was larger than the one being compared

A sample of what was output by the VB program when calculating the confidence numbers can be seen in Table 6.

TABLE 6: SAMPLE OF EXCEL FILE SHEET WHERE CONFIDENCE NUMBERS ARE CALCULATED.

|                 | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean1}$ | $L_{mean2}$ |
|-----------------|------------|------------|---------|---------|-------------|-------------|
| 1               | 4440       | 13192      | 3.31    | 1.94    | 7878        | 37755       |
| 2               | 3020       | 10169      | 2.18    | 1.50    | 7595        | 41300       |
| 3               | 2922       | 14795      | 1.53    | 2.18    | 11519       | 37090       |
| ↓               | ↓          | ↓          | ↓       | ↓       | ↓           | ↓           |
| 98              | 2910       | 10461      | 1.70    | 1.79    | 9809        | 32948       |
| 99              | 1208       | 9695       | 1.18    | 1.71    | 7618        | 32602       |
| 100             | 3408       | 10986      | 2.10    | 1.86    | 8919        | 33100       |
| <b>Conf #</b>   |            | 98         |         |         |             | 97          |
| <b>Averages</b> | 3156       | 11554      | 1.90    | 1.82    | 9723        | 36762       |

The first column in Figure 6 is a control number column to indicate which set of random numbers from 1 to 100 the data is for, the second column are the calculated  $L_{10}$  values for sample size  $n_1$ , column 3 are the calculated  $L_{10}$  values for sample size  $n_2$ , the

fourth and fifth columns are the calculated Weibull slopes for sample sizes  $n_1$  and  $n_2$  respectively, and the final two columns are the calculated mean life values for sample sizes  $n_1$  and  $n_2$  respectively. The row labeled “Conf #” is the row in which the confidence number from comparing the two different sample sets is calculated in the case of Figure 6 the confidence number calculated using  $L_{10}$  lives is 98% in favor of the sample set corresponding to  $n_2$  which means that the  $L_{10}$  life of sample set 1 was greater than that of sample set 2 98 out the 100 times that the simulation was run. The 97% confidence is read the same way; the only difference is that this number was calculated using the  $L_{\text{mean}}$  values rather than the  $L_{10}$ . The final row displays averages for all of the values for all 100 cycles of the simulation. A full set of values with the confidence numbers calculated can be seen in Table 7 as well as in Appendix C.

TABLE 7:  $L_{10}$ , SLOPE, AND LMEAN VALUES FOR 1 SET OF 100 CYCLES AND THE CORRESPONDING CONFIDENCE NUMBERS.

|    | <b><math>L_{10-1}</math></b> | <b><math>L_{10-2}</math></b> | <b>Slope-1</b> | <b>Slope-2</b> | <b>Lmean1</b> | <b>Lmean2</b> |
|----|------------------------------|------------------------------|----------------|----------------|---------------|---------------|
| 1  | 1531                         | 6606                         | 1.02           | 1.44           | 13355         | 28709         |
| 2  | 4548                         | 6312                         | 2.55           | 1.23           | 9831          | 36798         |
| 3  | 2669                         | 11043                        | 2.05           | 1.71           | 7144          | 37065         |
| 4  | 1920                         | 10437                        | 1.39           | 1.55           | 8836          | 40551         |
| 5  | 1738                         | 17389                        | 1.60           | 2.38           | 6395          | 39959         |
| 6  | 2933                         | 14468                        | 1.87           | 2.37           | 8739          | 33369         |
| 7  | 2050                         | 4395                         | 1.24           | 1.11           | 11706         | 31412         |
| 8  | 1733                         | 9727                         | 1.47           | 2.12           | 7275          | 25156         |
| 9  | 774                          | 6200                         | 1.06           | 1.29           | 6229          | 32545         |
| 10 | 3816                         | 7711                         | 2.37           | 1.22           | 8833          | 45315         |
| 11 | 1608                         | 8026                         | 1.26           | 1.65           | 8875          | 28263         |
| 12 | 1564                         | 17522                        | 1.11           | 2.17           | 11188         | 44229         |
| 13 | 2213                         | 12365                        | 1.78           | 2.41           | 7065          | 28155         |
| 14 | 1830                         | 8801                         | 1.49           | 1.48           | 7532          | 36533         |
| 15 | 4415                         | 22036                        | 2.21           | 2.24           | 10941         | 53841         |
| 16 | 3745                         | 6103                         | 2.44           | 1.35           | 8429          | 29847         |
| 17 | 570                          | 15083                        | 0.91           | 1.84           | 6669          | 45848         |

|    | <b>L<sub>10-1</sub></b> | <b>L<sub>10-2</sub></b> | <b>Slope-1</b> | <b>Slope-2</b> | <b>Lmean1</b> | <b>Lmean2</b> |
|----|-------------------------|-------------------------|----------------|----------------|---------------|---------------|
| 18 | 3692                    | 13652                   | 1.59           | 2.16           | 13714         | 34620         |
| 19 | 3580                    | 12677                   | 1.68           | 1.77           | 12346         | 40517         |
| 20 | 5166                    | 10579                   | 2.69           | 1.82           | 10672         | 32615         |
| 21 | 2116                    | 6639                    | 1.52           | 1.34           | 8482          | 32531         |
| 22 | 1403                    | 12935                   | 1.15           | 2.25           | 9404          | 31485         |
| 23 | 1070                    | 10049                   | 1.00           | 1.57           | 9871          | 37995         |
| 24 | 2364                    | 11452                   | 1.47           | 1.48           | 9983          | 47561         |
| 25 | 5265                    | 15524                   | 2.50           | 2.33           | 11573         | 36406         |
| 26 | 3146                    | 14007                   | 1.93           | 2.11           | 9061          | 36377         |
| 27 | 1992                    | 10990                   | 1.40           | 1.51           | 9143          | 44409         |
| 28 | 4445                    | 8439                    | 2.32           | 1.36           | 10488         | 40314         |
| 29 | 2600                    | 5597                    | 1.71           | 1.09           | 8723          | 42019         |
| 30 | 5663                    | 9086                    | 3.39           | 1.55           | 9895          | 35085         |
| 31 | 3911                    | 18613                   | 2.39           | 2.65           | 8979          | 38920         |
| 32 | 1621                    | 7627                    | 1.38           | 1.25           | 7564          | 42578         |
| 33 | 2485                    | 7446                    | 1.85           | 1.39           | 7540          | 34341         |
| 34 | 4176                    | 5830                    | 2.69           | 1.16           | 8633          | 38149         |
| 35 | 1426                    | 14633                   | 1.22           | 2.25           | 8465          | 35603         |
| 36 | 3250                    | 12448                   | 1.82           | 1.98           | 10012         | 34676         |
| 37 | 2476                    | 13802                   | 1.34           | 2.21           | 12197         | 34078         |
| 38 | 4823                    | 20237                   | 2.66           | 2.36           | 10045         | 46957         |
| 39 | 1924                    | 6489                    | 1.41           | 1.16           | 8656          | 42422         |
| 40 | 4284                    | 10562                   | 2.06           | 1.56           | 11431         | 40611         |
| 41 | 4735                    | 5463                    | 2.61           | 1.26           | 10038         | 30341         |
| 42 | 1846                    | 18406                   | 1.47           | 2.58           | 7771          | 39395         |
| 43 | 4472                    | 10007                   | 2.76           | 1.74           | 9040          | 32864         |
| 44 | 2945                    | 15830                   | 2.20           | 2.18           | 7317          | 39817         |
| 45 | 5577                    | 8301                    | 3.70           | 1.58           | 9251          | 31190         |
| 46 | 2846                    | 10493                   | 1.59           | 1.56           | 10622         | 40163         |
| 47 | 2659                    | 5114                    | 1.70           | 1.16           | 8997          | 33662         |
| 48 | 1667                    | 13551                   | 1.41           | 2.13           | 7499          | 34798         |
| 49 | 2984                    | 7313                    | 1.87           | 1.50           | 8894          | 29817         |
| 50 | 1706                    | 24367                   | 1.51           | 3.87           | 6846          | 39439         |
| 51 | 3893                    | 12906                   | 2.49           | 1.90           | 8597          | 37811         |
| 52 | 1879                    | 11072                   | 1.29           | 1.64           | 9938          | 39297         |
| 53 | 2764                    | 14576                   | 1.94           | 2.21           | 7882          | 36027         |
| 54 | 1857                    | 5483                    | 1.43           | 1.13           | 8191          | 38037         |
| 55 | 4736                    | 10104                   | 3.01           | 1.43           | 8978          | 44689         |
| 56 | 2288                    | 13560                   | 1.61           | 1.81           | 8366          | 42200         |



|    | <b>L<sub>10-1</sub></b> | <b>L<sub>10-2</sub></b> | <b>Slope-1</b> | <b>Slope-2</b> | <b>Lmean1</b> | <b>Lmean2</b> |
|----|-------------------------|-------------------------|----------------|----------------|---------------|---------------|
| 57 | 3764                    | 6795                    | 2.33           | 1.41           | 8837          | 30634         |
| 58 | 1382                    | 9494                    | 1.24           | 1.85           | 7922          | 28736         |
| 59 | 2757                    | 8670                    | 1.78           | 1.67           | 8781          | 30001         |
| 60 | 6075                    | 11630                   | 3.55           | 1.64           | 10329         | 41497         |
| 61 | 3060                    | 7326                    | 2.80           | 1.34           | 6117          | 36314         |
| 62 | 1155                    | 9746                    | 1.16           | 1.62           | 7563          | 35226         |
| 63 | 2135                    | 8305                    | 1.27           | 1.64           | 11678         | 29529         |
| 64 | 1750                    | 11777                   | 1.60           | 1.60           | 6431          | 43255         |
| 65 | 3699                    | 7858                    | 2.79           | 1.30           | 7415          | 40744         |
| 66 | 3289                    | 9146                    | 1.81           | 1.86           | 10251         | 27450         |
| 67 | 3310                    | 14112                   | 1.84           | 2.24           | 10086         | 34411         |
| 68 | 2485                    | 18872                   | 1.40           | 2.47           | 11275         | 41985         |
| 69 | 1409                    | 4500                    | 1.38           | 1.33           | 6595          | 22392         |
| 70 | 3508                    | 6204                    | 1.75           | 1.21           | 11381         | 37413         |
| 71 | 2584                    | 7356                    | 1.77           | 1.56           | 8260          | 28190         |
| 72 | 1321                    | 9894                    | 1.09           | 1.41           | 9804          | 44562         |
| 73 | 4499                    | 18712                   | 2.95           | 2.57           | 8658          | 40171         |
| 74 | 2676                    | 7549                    | 1.96           | 1.34           | 7553          | 37155         |
| 75 | 1244                    | 8854                    | 1.03           | 1.54           | 10704         | 34765         |
| 76 | 4065                    | 16409                   | 1.92           | 2.47           | 11760         | 36525         |
| 77 | 1473                    | 4195                    | 1.14           | 0.91           | 10053         | 49394         |
| 78 | 2841                    | 8220                    | 2.22           | 1.38           | 7015          | 38606         |
| 79 | 3400                    | 16087                   | 1.79           | 2.13           | 10730         | 41389         |
| 80 | 5105                    | 8770                    | 2.66           | 1.51           | 10630         | 35391         |
| 81 | 1190                    | 15654                   | 0.98           | 2.36           | 11525         | 36284         |
| 82 | 1839                    | 9235                    | 1.11           | 1.24           | 13311         | 52398         |
| 83 | 5847                    | 8201                    | 3.34           | 1.33           | 10315         | 40808         |
| 84 | 4191                    | 7159                    | 2.47           | 1.54           | 9319          | 27985         |
| 85 | 4437                    | 14509                   | 2.61           | 1.70           | 9398          | 49117         |
| 86 | 2873                    | 9790                    | 2.02           | 1.47           | 7824          | 41233         |
| 87 | 3646                    | 22788                   | 2.48           | 3.10           | 8072          | 42275         |
| 88 | 2763                    | 11256                   | 1.74           | 1.94           | 9045          | 32259         |
| 89 | 1777                    | 14146                   | 1.44           | 2.07           | 7725          | 37589         |
| 90 | 1180                    | 9941                    | 1.18           | 1.72           | 7475          | 33201         |
| 91 | 2704                    | 10199                   | 1.93           | 2.10           | 7761          | 26607         |
| 92 | 3189                    | 3571                    | 2.01           | 0.93           | 8730          | 40085         |
| 93 | 5192                    | 8720                    | 3.13           | 1.84           | 9568          | 26491         |
| 94 | 5306                    | 8050                    | 1.93           | 1.65           | 15219         | 28474         |
| 95 | 3312                    | 13608                   | 1.98           | 2.57           | 9215          | 29228         |

|                 | <b>L<sub>10-1</sub></b> | <b>L<sub>10-2</sub></b> | <b>Slope-1</b> | <b>Slope-2</b> | <b>Lmean1</b> | <b>Lmean2</b> |
|-----------------|-------------------------|-------------------------|----------------|----------------|---------------|---------------|
| 96              | 4843                    | 12316                   | 2.88           | 1.69           | 9491          | 42120         |
| 97              | 4473                    | 13960                   | 2.31           | 2.46           | 10580         | 31124         |
| 98              | 5800                    | 3246                    | 3.71           | 0.98           | 9606          | 31196         |
| 99              | 1186                    | 5201                    | 1.05           | 1.19           | 9599          | 31998         |
| 100             | 3022                    | 8246                    | 1.72           | 1.37           | 10050         | 38992         |
| <b>Conf #</b>   |                         | 99                      |                |                |               | 100           |
| <b>averages</b> | 2991                    | 10804                   | 1.91           | 1.75           | 9278          | 36726         |

For verification purposes it was necessary to archive much of the data that was being generated by the program. This made it possible to go back and spot check the calculation to ensure that there were no errors in the generation or calculation of the data. This archive process also made it possible to check the outputs and to be able to optimize the inputs if necessary. After each confidence number was calculated the Weibull test parameters ( $m_1$ ,  $m_2$ ,  $L_{\beta 1}$ ,  $L_{\beta 2}$ ,  $n_1$ ,  $n_2$ , and the number of cycles run), the random numbers used, the median rank,  $L_{10,1}$ ,  $L_{10,2}$ ,  $L_{S,1}$ ,  $L_{S,2}$ , and the confidence numbers were all copied to an archive sheet within the same Excel workbook. Due to file size limitations it was not possible to archive all outputs from each cycle of the program. The aforementioned values were the only ones chosen for the archiving process because they were the critical values that would be needed if it became necessary to double check the program. A sample of what was printed in the archive section for the generation of one confidence number can be seen in Figure 19 and a complete archive sheet for one exemplary run can be found in Appendix B.

|                        |       | <b>L<sub>10,1</sub></b> | <b>Slope-1</b> | <b>Lmean1</b> | <b>L<sub>10,2</sub></b> | <b>Slope-2</b> | <b>Lmean2</b> |
|------------------------|-------|-------------------------|----------------|---------------|-------------------------|----------------|---------------|
|                        |       | 1531                    | 1.02           | 13355         | 6606                    | 1.44           | 28709         |
|                        |       | <b>Rnd# (j)</b>         | <b>MR</b>      | <b>Ls</b>     | <b>Rnd# (j)</b>         | <b>MR</b>      | <b>Ls</b>     |
| <b># of runs</b>       | 100   | 11                      | 0.0107         | 806           | 13                      | 0.0127         | 3549          |
| <b>n<sub>1</sub></b>   | 9     | 513                     | 0.5125         | 8322          | 77                      | 0.0767         | 9817          |
| <b>n<sub>2</sub></b>   | 13    | 545                     | 0.5445         | 8750          | 94                      | 0.0937         | 11027         |
| <b>ntotal</b>          | 1000  | 673                     | 0.6724         | 10629         | 156                     | 0.1556         | 14906         |
| <b>m<sub>1</sub></b>   | 1.8   | 680                     | 0.6794         | 10743         | 258                     | 0.2576         | 20410         |
| <b>m<sub>2</sub></b>   | 1.8   | 723                     | 0.7224         | 11478         | 348                     | 0.3476         | 24932         |
| <b>L<sub>B,1</sub></b> | 10000 | 734                     | 0.7334         | 11678         | 369                     | 0.3686         | 25976         |
| <b>L<sub>B,2</sub></b> | 40000 | 812                     | 0.8114         | 13287         | 376                     | 0.3755         | 26324         |
|                        |       | 908                     | 0.9073         | 16184         | 423                     | 0.4225         | 28670         |
|                        |       |                         |                |               | 425                     | 0.4245         | 28770         |
|                        |       |                         |                |               | 654                     | 0.6534         | 41309         |
|                        |       |                         |                |               | 852                     | 0.8514         | 57242         |
|                        |       |                         |                |               | 899                     | 0.8983         | 63323         |

Figure 19: Sample archive data for a single set of random numbers generated for the Weibull parameters as listed on the left

### Program Validation Using Algebraic Curve Fits

One method used to validate the accuracy of the Visual Basic program was to check it against an accepted method of calculating confidence numbers using L<sub>10</sub> life ratio (L10LR) values using a curve fit equation generated by Vlcek, Hendricks, and Zaretsky (Vlcek et. al. 2008). By empirically fitting algebraic equations to data read from Johnsons original figures, Vlcek et. al. were able to derive the following expression.

$$C_{L_{10}} = 1 - \exp\{[(a \ln x_0)^2 + E_1] / E_2\} \quad \text{Equation 7}$$

Where x<sub>0</sub> is the experimental L<sub>10</sub> life ratio, E<sub>1</sub> and E<sub>2</sub> are constants that were derived during the fitting process whose magnitudes are as follows E<sub>1</sub>=2896.3 and E<sub>2</sub>=-3595.9.

The variable a is defined as:

$$a = a_0 / \ln(L_{10}LR_{\text{calculated at } C=0.99}) \quad \text{Equation 8}$$

Where

$$a_0 = (E_2 \ln(1 - 0.99) - E_1)^{0.5} \quad \text{Equation 9}$$

In addition to calculating confidence number from the  $L_{10}$  life another set was also calculated using at the Mean Life. The mean life was calculated using equations generated by Vlcek, Hendricks, and Zaretsky (Vlcek et. al., 2008). The equations were generated by scaling and curve fitting Johnson's figures to make it possible to determine confidence number as a function of Weibull slope, Mean Life Ratio, and Degree of Freedom. From these curve fits Vlcek, Hendricks, and Zaretsky were able to generate a single algebraic equation to determine Mean Life Confidence Number. This equation is:

$$C_{\text{mean life}} = 1 - 0.5 \exp[-D (MLR_{\text{experiment}} - 1)] \quad \text{Equation 10}$$

Where  $MLR_{\text{experiment}}$  is the measured experimental mean life ratio and  $D$  is a function of Weibull slope, DOF, and constants as defined as:

$$D = \frac{3.912}{(MLR_{@99\%} - 1)} \quad \text{Equation 11}$$

$MLR_{@99\%}$  was determined from the curve fit of confidence numbers at 0.99 and found to equal

$$MLR_{@99\%} = (A_0 * \ln(DOF) + B_0)^2 + 1 \quad \text{Equation 12}$$

The constants  $A_0$  and  $B_0$  are functions of Weibull slope and equal:

$$A_0 = \frac{-0.0844}{m} - 0.05584 \quad \text{Equation 13}$$

And,

$$B_0 = \frac{1.2796}{m} + 0.6729 \quad \text{Equation 14}$$

#### Calculating 10,000 $L_{10}$ Lives with Limited Computer Resources

After all of the necessary data generating loops have been run the data needed for the final calculations and plots were transferred to a single worksheet. At this point the  $L_{10}$  values,  $L_{10,1}$ ,  $L_{10,2}$ , Slope<sub>1</sub>, Slope<sub>2</sub>, Mean Life 1, Mean Life 2, and the confidence number based off  $L_{10}$  and Mean Life values were all transferred to the export sheet within the workbook. A sample of what was copied to the export sheet of a workbook for one simulation of 10,000 confidence numbers can be seen in appendix F. Once on this sheet the averages of all of these values was calculated and recorded. Due to memory limitations of the available computers it was only possible to generate anywhere from 1,000 to 2,000 Confidence numbers at a time. This resulted in having to run the entire macro up to 10 times for each different combination of  $n_1$  and  $n_2$  values for the given TDOF. After all 10 runs were completed the corresponding export sheets were combined on a single sheet to compile ten-thousand  $L_{10}$ 's, slopes, mean lives, and confidence numbers for both populations. The averages of all of these was then calculated and recorded.

#### Application of the Confidence Number Model

*Generating Confidence Curve Figures.* At this point the values could be plotted to develop confidence number curves independent of Johnson's, but ultimately validated

against. When plotting the confidence curves the  $L_{10}$  ratio of the two sample sets used was plotted on the x-axis and confidence number was plotted on the y-axis. It is important to note here that the ratio of the two  $L_{10}$  lives must be greater than 1, therefore the ratio must be taken as the greater of the two sets over the lesser. For example, if two sample sets were compared and produced an  $L_{10}$  ratio of 2.5 and a confidence number of 98%, this point would be plotted with an abscissa of 2.5 and a corresponding ordinate value of 98%. This process was carried out for each combination of sample sizes corresponding to each TDOF examined at a Weibull slope of 1.8. A linear best curve fit line, whose origin had an abscissa of 1 and an ordinate of 50%, was then fitted to the data points to produce the confidence curve. Once all of the curves were generated they were overlaid on a single graph. These plots and the corresponding inputs are presented in chapter 4.

After this process was carried out using inputs that could be compared to those used by Johnson the results were compared to those illustrated in Johnson's figures (Johnson, 1964). As explained previously the model inputs ( $m_1$  and  $m_2$  both equaling 1.0 and then 1.8 and TDOF equaling 12, 24, 48, 96, and 400) used for the initial simulations were chosen in a manner that allowed the results to be compared to figures published by Johnson. An averaging process was used to generate the simulated confidence curve from the outputs of the VB macro. First the average  $L_{10}$  lives and confidence numbers from 10,000 cycles at each combination of  $n_1$  and  $n_2$  was calculated. From the average  $L_{10}$  life values the average  $L_{10}$  life ratio for the two sample sets was then calculated ensuring that the ratio was found in a manner that resulted in a  $L_{10}$  ratio value greater than 1. These average values of  $L_{10}$  ratios and confidence numbers for each combination

of  $n_1$  and  $n_2$  were then averaged with each other to calculate a single average  $L_{10}$  ratio and confidence number for that TDOF at the corresponding Weibull slope. By plotting a single point whose abscissa corresponded to the overall average  $L_{10}$  ratio and whose ordinate corresponded to the overall average of the confidence numbers at the corresponding TDOF a line could be drawn through this point and the origin. This line is the confidence number curve that was then compared back to Johnson's figures.

*Comparison to Experimental Results.* After concluding that the process was producing acceptable results as compared to Johnsons work, it was then time to use different inputs to attempt to prove that this method could be used to calculate confidence numbers at any Weibull slope and any TDOF. In order to substantiate this portion of the work it was necessary to have accepted results with which the simulated results could be compared. At the beginning of this work the intention was to generate a large population of rotational fatigue data for rotating aluminum shafts, however, due to the time constraints of this project and several repeatability issues encountered during experimentation the generation of this large experimental population was not completed at this time. Early on in the research process attempts were made to generate this experimental data set using a benchtop rotational fatigue tester. Large supplies of three different aluminum alloys (2024, 6064, and 7075) were acquired and initial testing was carried out. The initial results indicated that the reliability of the testing equipment was not going to be adequate for this work. This unreliability coupled with limited time resources made it necessary to seek an alternative to carrying out the experimental testing. Since carrying out the experimental rotational fatigue tests was not feasible during the time frame of this work it became necessary to utilize bearing failure data

available in the open literature. The rolling element bearing fatigue results generated by Parker and Zaretsky was ideally suited to this case (Parker et. al., 1978). In their work Parker and Zaretsky generated fatigue failure data for ball bearings using a five-ball accelerated benchtop test. Six different combinations of heat treatments and suppliers were used to yield six different test lots. The  $L_{10}$  lives of the various combinations were compared using graphically determined confidence numbers read from Johnson's figures. Of these six different combinations four of them, Test Lots A, C, D, and E, were completed with no suspensions and were therefore used in this work. The Weibull slope and total degree of freedom of these four test lots were the inputs used for the simulations of this portion of the work and can be seen in Table 8.

TABLE 8: FATIGUE DATA AS PUBLISHED BY PARKER ET. AL.

[Maximum Hertz stress, 5520 MPa (800 000 psi); contact angle,  $30^{\circ}$ ; shaft speed, 10 700 rpm; temperature 339 K ( $150^{\circ}$  F). ]

| Material  | Melting process | Heat-treatment supplier | Test lot | Fatigue life, millions of stress cycles |          | Slope | Failure index <sup>a</sup> |
|-----------|-----------------|-------------------------|----------|---|----------|-------|----------------------------|
|           |                 |                         |          | $L_{10}$                                | $L_{50}$ |       |                            |
| AISI M-50 | VIM-VAR         | N                       | A        | 5.50                                    | 14.0     | 2.01  | 40 out of 40               |
|           |                 | R                       | C        | 10.4                                    | 32.3     | 1.66  | 40 out of 40               |
| 18-4-1    | EFR             | N                       | D        | 3.20                                    | 13.2     | 1.33  | 40 out of 40               |
|           |                 | R                       | B        | 5.26                                    | 33.2     | 1.02  | 38 out of 40               |
|           | VAR             | N                       | E        | 4.50                                    | 25.4     | 1.09  | 40 out of 40               |
|           |                 | R                       | F        | 10.4                                    | 38.2     | 1.45  | 39 out of 39               |

<sup>a</sup>Indicates number of failures out of total number of tests.

In order to attempt to reproduce these confidence numbers using the Monte Carlo simulated method it was first necessary to gather all inputs required to run the Visual Basic program. The inputs again are:  $n_1$ ,  $n_2$ ,  $m_1$ ,  $m_2$ ,  $L_{\beta,1}$ ,  $L_{\beta,2}$ . The sample size for each



population and corresponding slopes were taken directly from the Parker 1978 paper. However, the 2-parameter Weibull equation had to be used to determine the characteristic lives of the two populations since only  $L_{10}$  and  $L_{50}$  are reported in Table 8. From equation 1 the two parameter Weibull equation is:

$$\ln \ln\left(\frac{1}{S}\right) = m \ln\left(\frac{L_S}{L_\beta}\right) \quad 0 < L_S < \infty; 0 < S < 1 \quad \text{Equation 1}$$

Where  $S$  equals the survivability,  $m$  is the Weibull slope,  $L_S$  is the life at  $S$ , and  $L_\beta$  is the characteristic life of the sample population. The  $L_{10}$  or 90% survivability level was used to calculate the characteristic life. For this case  $S = 0.90$ . The Weibull slope for Test Lot A was read from Figure #, and for this case  $m = 2.01$ . The  $L_{10}$  value Test Lot A reported in Figure # was  $L_{10} = 5.50$  or 5,500,000 cycles. These values were then substituted into the Weibull equation.

$$\ln \ln\left(\frac{1}{0.90}\right) = 2.01 \times \ln\left(\frac{5,500,000}{L_\beta}\right)$$

This left only one unknown and allowed for the characteristic life to be solved for as shown here.

$$\ln \ln(1.1111) = 2.01 \times \ln\left(\frac{5,500,000}{L_\beta}\right)$$

$$\frac{\ln \ln(1.1111)}{2.01} = \frac{2.01 \times \ln\left(\frac{5,500,000}{L_\beta}\right)}{2.01}$$

$$-1.1196 = \ln(5,500,000) - \ln(L_\beta)$$

$$-1.1196 = 15.5203 - \ln(L_\beta)$$

$$16.6398 = \ln(L_\beta)$$

$$e^{16.6398} = e^{\ln(L_\beta)}$$

$$L_\beta = 16,849,716$$

The calculation could be double checked using the  $L_{50}$  life rather than the  $L_{10}$  life.

The previously described process was then repeated to calculate the remaining characteristic lives for Test Lots C, D, and E. These values can be seen in Table 9.

TABLE 9: MONTE CARLO INPUTS FOR ZARETSKY EXPERIMENTAL BEARING DATA (PARKER ET. AL., 1978)

| Test Lot | Population size (n) | Slope (m) | $L_{10}$   | $L_\beta$  |
|----------|---------------------|-----------|------------|------------|
| A        | 40                  | 2.01      | 5,500,000  | 16,850,000 |
| C        | 40                  | 1.66      | 32,300,000 | 40,340,000 |
| D        | 40                  | 1.33      | 13,200,000 | 17,380,000 |
| E        | 40                  | 1.09      | 25,400,000 | 35,470,000 |

The Monte Carlo simulations could now be run using the above Weibull parameters. All of the different combinations were run and compared a total of 10,000 times to produce an average confidence number for each pair.

#### Summary

In order to produce confidence number figures a visual basic program based on the two parameter Weibull equation was written that utilized a Monte Carlo random number generation. The random inputs were used to simulate large population fatigue failure. It was then determined that 10,000 cycles would need to be run for each different set of

Weibull parameters in order to establish statistical certainty. To illustrate the ability of the VB program to generate repeatable confidence numbers 10 full simulations of 10,000 cycles were run at the same Weibull parameters and compared. The macro was then run using Weibull parameters equal to those used by Johnson and the outputs were converted into confidence number figures and compared to those published by Johnson in 1964 to validate the method. To further validate the accuracy of the Weibull-based Monte Carlo simulated method the confidence numbers produced were compared to those generated using a curve fit model established by Vleck et. al.. Once the method of producing confidence numbers and confidence number figures was sufficiently validated experimental data produced by Parker et. al. was used to demonstrate the accuracy of the program using experimental Weibull parameters.

## CHAPTER 4

### FINDINGS AND ANALYSIS OF THE DATA

#### Introduction

Weibull-based Monte Carlo simulations were carried out to generate large populations of fatigue failures. Using fatigue lives calculated from random inputs using the two parameter Weibull equation it was possible to calculate  $L_{10}$  lives and confidence numbers for two fatigue data sets. The calculated values were verified through hand calculations and comparison to an established program written by Lewicki. Simulations were then run using Weibull parameters equaling those used by Johnson for one of his published confidence number figures. Confidence number figures were then created from the Weibull-based Monte Carlo simulation outputs. When compared to Johnson's original figure it was found that the confidence curves at TDOF of 12, 24, 48, and 96 and Weibull slope of 1.8 differed between 0.0% - 7.4% at the 90% confidence level. Finally, Weibull parameters determined experimentally by Parker et al were used as inputs to the VB program. This resulted in confidence numbers that varied as little as 1% from experimentally determined values.

Now that the theory of comparative ranking and the Monte Carlo based Visual Basic macro creation process has been explained the results of the work can be analyzed. Once the point was reached at which the VB macro was running as intended it was necessary to verify that the outputs were being calculated correctly.

#### Validation of Calculations Using Accepted Method

Before the time was spent generating large numbers of fatigue lives,  $L_{10}$  lives and confidence numbers, the outputs of a small group of simulations were generated and

analyzed for accuracy. Hand calculations were first performed to confirm the median rank and fatigue life calculations. Next, an Excel program, created by David Lewicki of NASA Glenn Research Center, that calculates the Weibull parameters for a single set of lives was used to double-check the macros calculations of Weibull slope,  $L_{10}$  life and median life. A sample set of these values being compared (those calculated using the macro developed as part of this study and those calculated using the Lewicki macro) can be seen in Table 10.

TABLE 10: SIMULATION OUTPUTS COMPARED TO THOSE GENERATED USING THE LEWICKI PROGRAM.

| Rnd# (j) | Ls           | MR <sub>plot</sub> | Mr <sub>plot-Lewicki</sub> |
|----------|--------------|--------------------|----------------------------|
| 156      | 3726         | 0.0745             | 0.0741                     |
| 211      | 4489         | 0.1809             | 0.1806                     |
| 470      | 7763         | 0.2872             | 0.2871                     |
| 485      | 7956         | 0.3936             | 0.3935                     |
| 542      | 8709         | 0.5000             | 0.5000                     |
| 609      | 9649         | 0.6064             | 0.6065                     |
| 649      | 10250        | 0.7128             | 0.7130                     |
| 959      | 19009        | 0.8191             | 0.8194                     |
| 962      | 19255        | 0.9255             | 0.9259                     |
|          | <b>Slope</b> | <b>Y-Int</b>       | <b>L<sub>10</sub></b>      |
| McBride  | 1.91         | -17.90             | 3570                       |
| Lewicki  | 1.92         | -17.93             | 3577                       |

which were used as inputs to the Lewicki program, The median rank calculated using the macro created in this work (MR<sub>plot</sub>), the median rank calculated using Lewicki's program (MR<sub>plot-Lewicki</sub>), and the slope, Y-intercept (Y-Int), and  $L_{10}$  life calculated using the two programs. As seen in Table # the median rank values deviate no more than 0.0004 and the slope, y-int, and  $L_{10}$  also agree very closely with those calculated in Lewicki. The minor differences in values can be attributed to the fact that the Lewicki macro uses table

values of median ranks determined using Leonard Johnson's binomial equation (Johnson 1964) while the work reported herein uses Equation # to closely approximate the median rank value.

### Establishing the Repeatability of Multiple Trials

Once a level of comfort was established in the accuracy of the outputs from the Monte Carlo model, another process was carried out to illustrate the repeatability of the VB program. In order to provide a significant level of statistical confidence in the repeatable nature of the Visual Basic program being used to generate the confidence numbers multiple (ten) runs of 10,000 were carried out at set input parameters. These input parameters and the results of the 10 runs can be found in table 11.

TABLE 11: RESULTS OF 10 CYCLES OF 10,000 RUNS TO DEMONSTRATE REPEATABLE NATURE OF MACRO.

| INPUTS: DOF = 96; n <sub>1</sub> = 9; n <sub>2</sub> = 13; m <sub>1</sub> = 1.8; m <sub>2</sub> = 1.8; L <sub>β1</sub> = 10,000; L <sub>β2</sub> = 40,000 |          |       |       |         |         |         |         |            |
|---|----------|-------|-------|---------|---------|---------|---------|------------|
|   | C# - L10 | L10-1 | L10-2 | Slope-1 | Slope-2 | Lmean-1 | Lmean-2 | C# - Lmean |
| TRIAL 1   | 99       | 2908  | 11812 | 1.82    | 1.83    | 9444    | 37449   | 100        |
| TRIAL 2   | 99       | 2904  | 11812 | 1.82    | 1.83    | 9451    | 37489   | 100        |
| TRIAL 3   | 99       | 2900  | 11794 | 1.82    | 1.83    | 9447    | 37461   | 100        |
| TRIAL 4   | 99       | 2901  | 11800 | 1.82    | 1.83    | 9447    | 37474   | 100        |
| TRIAL 5   | 99       | 2905  | 11810 | 1.82    | 1.83    | 9452    | 37482   | 100        |
| TRIAL 6   | 99       | 2907  | 11816 | 1.82    | 1.83    | 9445    | 37465   | 100        |
| TRIAL 7   | 99       | 2909  | 11811 | 1.82    | 1.83    | 9441    | 37446   | 100        |
| TRIAL 8   | 99       | 2909  | 11821 | 1.82    | 1.84    | 9443    | 37438   | 100        |
| TRIAL 9   | 99       | 2911  | 11819 | 1.83    | 1.83    | 9445    | 37465   | 100        |
| TRIAL 10  | 99       | 2907  | 11824 | 1.82    | 1.84    | 9445    | 37473   | 100        |
| <b>Average</b>  | 99       | 2906  | 11812 | 1.82    | 1.83    | 9446    | 37464   | 100        |
| <b>STDEV</b>  | 0        | 4     | 9     | 0.00    | 0.00    | 3       | 16      | 0          |

### Generation of Confidence Number Figures Using Weibull Parameters Used by Leonard Johnson

As previously stated the first set of confidence number figures was produced using the Weibull slope and TDOFs used by Johnson. The purpose of this was to make it possible

to compare the confidence number figures generated to Johnson's previously accepted figures (Johnson, 1964). The first set of Weibull-based Monte Carlo simulated confidence number figures were generated using the following constant Weibull inputs: a total population size of 1,000, a Weibull slope ( $m$ ) of 1.8, a characteristic life ( $L_{\beta,1}$ ) of 10,000, and an  $L_{\beta,2}$  of 40,000. Using these parameters, the program was run a total of 10,000 times for all possible combinations for the following total degrees of freedom: 96, 48, 24, 12. As explained previously 10,000 cycles was chosen to ensure an acceptable level of statistical certainty in the process. This resulted in an output of 10,000 confidence numbers which were then averaged to produce a single confidence number for all of the groups of simulations. The average values calculated from 10,000 runs at each of the combination of conditions specified above can be found in Tables 12-15.

TABLE 12: WEIBULL PARAMETERS AND OUTPUTS FOR THE SIMULATION AT M=1.8 AND TDOF = 96

| Total Degrees of Freedom (TDOF) = 96  |               |            |            |         |         |              |              |                 |
|---|---------------|------------|------------|---------|---------|--------------|--------------|-----------------|
| $n_1 = 9$<br>$n_2 = 13$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 99            | 2908       | 11812      | 1.82    | 1.83    | 9444         | 37449        | 100             |
| $L_{10}Ratio = 4.06$  |               |            |            |         |         |              |              |                 |
| $n_1 = 13$<br>$n_2 = 9$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 98            | 2950       | 11597      | 1.83    | 1.82    | 9355         | 37743        | 100             |
| $L_{10}Ratio = 3.93$  |               |            |            |         |         |              |              |                 |
| $n_1 = 7$<br>$n_2 = 17$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 100           | 2907       | 12029      | 1.84    | 1.85    | 9529         | 37330        | 100             |
| $L_{10}Ratio = 4.14$  |               |            |            |         |         |              |              |                 |
| $n_1 = 17$<br>$n_2 = 7$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 97            | 3007       | 11613      | 1.85    | 1.84    | 9326         | 38110        | 100             |
| $L_{10}Ratio = 3.86$  |               |            |            |         |         |              |              |                 |
| $n_1 = 5$<br>$n_2 = 25$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 100           | 2958       | 12391      | 1.94    | 1.89    | 9635         | 37182        | 100             |
| $L_{10}Ratio = 4.19$  |               |            |            |         |         |              |              |                 |
| $n_1 = 4$<br>$n_2 = 33$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 100           | 3052       | 12741      | 2.12    | 1.93    | 9708         | 37188        | 100             |
| $L_{10}Ratio = 4.17$  |               |            |            |         |         |              |              |                 |
| $n_1 = 3$<br>$n_2 = 49$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 100           | 3284       | 13314      | 2.68    | 1.99    | 9822         | 37258        | 100             |
| $L_{10}Ratio = 4.05$  |               |            |            |         |         |              |              |                 |



TABLE 13: WEIBULL PARAMETERS AND OUTPUTS FOR THE SIMULATION AT M=1.8 AND TDOF = 48

| Total Degrees of Freedom (TDOF) = 48  |               |            |            |         |         |              |              |                 |
|---|---------------|------------|------------|---------|---------|--------------|--------------|-----------------|
| $n_1 = 7$<br>$n_2 = 9$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$  |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 98            | 2915       | 11656      | 1.85    | 1.83    | 9525         | 37805        | 100             |
| $L_{10}Ratio = 4.00$  |               |            |            |         |         |              |              |                 |
| $n_1 = 9$<br>$n_2 = 7$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$  |               |            |            |         |         |              |              |                 |
| Averages  | $L_{10}$      | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 96            | 2914       | 11667      | 1.83    | 1.85    | 9452         | 38098        | 100             |
| $L_{10}Ratio = 4.00$  |               |            |            |         |         |              |              |                 |
| $n_1 = 5$<br>$n_2 = 13$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 99            | 2954       | 11810      | 1.94    | 1.83    | 9628         | 37484        | 100             |
| $L_{10}Ratio = 4.00$  |               |            |            |         |         |              |              |                 |
| $n_1 = 13$<br>$n_2 = 5$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 94            | 2957       | 11789      | 1.83    | 1.94    | 9375         | 38511        | 100             |
| $L_{10}Ratio = 4.00$  |               |            |            |         |         |              |              |                 |
| $n_1 = 4$<br>$n_2 = 17$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 99            | 3053       | 12001      | 2.12    | 1.85    | 9711         | 37298        | 100             |
| $L_{10}Ratio = 3.93$  |               |            |            |         |         |              |              |                 |
| $n_1 = 17$<br>$n_2 = 4$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 91            | 3002       | 12207      | 1.85    | 2.11    | 9327         | 38860        | 100             |
| $L_{10}Ratio = 4.07$  |               |            |            |         |         |              |              |                 |
| $n_1 = 3$<br>$n_2 = 25$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 99            | 3281       | 12404      | 2.68    | 1.89    | 9806         | 37221        | 100             |
| $L_{10}Ratio = 3.78$  |               |            |            |         |         |              |              |                 |
| $n_1 = 25$<br>$n_2 = 3$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 88            | 3097       | 13123      | 1.89    | 2.68    | 9301         | 39266        | 100             |
| $L_{10}Ratio = 4.24$  |               |            |            |         |         |              |              |                 |

TABLE 14: WEIBULL PARAMETERS AND OUTPUTS FOR THE SIMULATION AT M=1.8 AND TDOF = 24

| Total Degrees of Freedom (TDOF) = 24  |               |            |            |         |         |              |              |                 |
|---|---------------|------------|------------|---------|---------|--------------|--------------|-----------------|
| $n_1 = 5$<br>$n_2 = 7$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$  |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 96            | 2958       | 11612      | 1.94    | 1.84    | 9638         | 38080        | 100             |
| $L_{10}Ratio = 3.93$  |               |            |            |         |         |              |              |                 |
| $n_1 = 7$<br>$n_2 = 5$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$  |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 93            | 2902       | 11830      | 1.84    | 1.94    | 9529         | 38515        | 100             |
| $L_{10}Ratio = 4.08$  |               |            |            |         |         |              |              |                 |
| $n_1 = 4$<br>$n_2 = 9$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$  |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 96            | 3068       | 11657      | 2.13    | 1.82    | 9727         | 37850        | 100             |
| $L_{10}Ratio = 3.80$  |               |            |            |         |         |              |              |                 |
| $n_1 = 9$<br>$n_2 = 4$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$  |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 91            | 2906       | 12186      | 1.82    | 2.11    | 9454         | 38852        | 100             |
| $L_{10}Ratio = 4.19$  |               |            |            |         |         |              |              |                 |
| $n_1 = 3$<br>$n_2 = 13$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 97            | 3286       | 11825      | 2.68    | 1.83    | 9818         | 37491        | 100             |
| $L_{10}Ratio = 3.60$  |               |            |            |         |         |              |              |                 |
| $n_1 = 13$<br>$n_2 = 3$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta_1} = 10,000$<br>$L_{\beta_2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages  | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|   | 88            | 2949       | 13092      | 1.83    | 2.66    | 9370         | 39298        | 100             |
| $L_{10}Ratio = 4.44$  |               |            |            |         |         |              |              |                 |

TABLE 15: WEIBULL PARAMETERS AND OUTPUTS FOR THE SIMULATION AT M=1.8 AND TDOF = 12

| Total Degrees of Freedom (TDOF) = 12   |               |            |            |         |         |              |              |                 |
|--|---------------|------------|------------|---------|---------|--------------|--------------|-----------------|
| $n_1 = 4$<br>$n_2 = 5$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta 1} = 10,000$<br>$L_{\beta 2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages   | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|  | 92            | 3057       | 11857      | 2.12    | 1.94    | 9714         | 38537        | 100             |
| $L_{10}Ratio = 3.88$   |               |            |            |         |         |              |              |                 |
| $n_1 = 5$<br>$n_2 = 4$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta 1} = 10,000$<br>$L_{\beta 2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages   | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|  | 91            | 2939       | 12199      | 1.94    | 2.12    | 9595         | 38763        | 100             |
| $L_{10}Ratio = 4.15$   |               |            |            |         |         |              |              |                 |
| $n_1 = 3$<br>$n_2 = 7$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta 1} = 10,000$<br>$L_{\beta 2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages   | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|  | 93            | 3286       | 11622      | 2.70    | 1.84    | 9811         | 38093        | 100             |
| $L_{10}Ratio = 3.54$   |               |            |            |         |         |              |              |                 |
| $n_1 = 7$<br>$n_2 = 3$<br>$m_1 = 1.8$<br>$m_2 = 1.8$<br>$L_{\beta 1} = 10,000$<br>$L_{\beta 2} = 40,000$ |               |            |            |         |         |              |              |                 |
| Averages   | C# - $L_{10}$ | $L_{10-1}$ | $L_{10-2}$ | Slope-1 | Slope-2 | $L_{mean-1}$ | $L_{mean-2}$ | C# - $L_{mean}$ |
|  | 88            | 2900       | 13110      | 1.84    | 2.69    | 9521         | 39249        | 100             |
| $L_{10}Ratio = 4.52$   |               |            |            |         |         |              |              |                 |

Tables 12-15 contain the Weibull parameters for each run which includes sample population size 1 ( $n_1$ ), sample population size 2 ( $n_2$ ), Weibull slopes for sample populations 1 and 2 ( $m_1$  &  $m_2$ ), and the characteristic lives for sample populations 1 and 2 ( $L_{\beta,1}$  and  $L_{\beta,2}$ ). Also included are the output results averaged from 10,000 cycles of the VB macro at the corresponding inputs. In order to be able to construct confidence curve plots it is necessary to calculate the  $L_{10}$  Ratio for each data set. This is accomplished by dividing the  $L_{10}$  life from the sample population,  $n_1$  or  $n_2$ , with the greater  $L_{10}$  life magnitude by the  $L_{10}$  life from the one with lesser magnitude—in other words the magnitude of the ratio must be greater than one. For example if the magnitude of  $L_{10,1}$

was greater than the magnitude of  $L_{10,2}$  then the  $L_{10}$  Ratio would be calculated as follows in Equation 15.

$$L_{10} \text{ Ratio} = \frac{L_{10,1}}{L_{10,2}} \quad \text{Equation 15}$$

The  $L_{10}$  Ratios for all different combinations of Weibull parameters at the different TDOF are included in Tables 12-15.

It was hypothesized that the confidence curve would be a straight line with one line end point at the intersection of a life ratio of 1.0 and a confidence number of 0.50 (no statistical difference between the two values), and the other end point at the intersection of those values generated by the Weibull-based Monte Carlo simulation at the same TDOF value. After the  $L_{10}$  ratios were calculated and compared to generate confidence numbers, it was then possible to plot the confidence numbers. The confidence numbers were plotted as a point whose abscissa was equal to the corresponding  $L_{10}$  ratio and ordinate value equal to the corresponding confidence number. All confidence numbers having the same total degree of freedom were plotted on the same graph. The values used to plot the confidence numbers for a Weibull slope of 1.8 and a TDOF of 96 are listed in Table 16.

TABLE 16: VALUES USED TO PLOT CONFIDENCE NUMBERS FOR M=1.8 AND TDOF=96

|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
|---|-------|-------|----------------|--------------|
| 1 | 9     | 13    | 4.06           | 99           |
| 2 | 13    | 9     | 3.93           | 98           |
| 3 | 7     | 17    | 4.14           | 100          |
| 4 | 17    | 7     | 3.86           | 97           |
| 5 | 5     | 25    | 4.19           | 100          |
| 6 | 4     | 33    | 4.17           | 100          |
| 7 | 3     | 49    | 4.05           | 100          |

After the confidence numbers were plotted at the same TDOF, it became apparent from Figure ## that the values did not fall on a straight line that intersected the origin (life ratio of 1.0 and a confidence number of 0.50). At this point, (i) the upper and lower bonding curves could be used to create a fan shaped curve, or (ii) a representative average curve could be drawn through the cluster of points, or (iii) the confidence numbers used to generate the plots could be averaged together and replot. Since there had been some indication that in Johnson's past work he might have taken averages (Robert C. Hendricks (Senior Technologist, NASA Glenn Research Center), in discussion with the author, July 2010), option (ii) and (iii) were pursued herein. The average  $L_{10}$  Ratio and confidence numbers for the data from Table 16 was calculated and included in table 17.

TABLE 17: AVERAGE VALUES USED TO PLOT CONFIDENCE NUMBER CURVE FOR M=1.8 AND TDOF=96

|                 | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
|-----------------|-------|-------|----------------|--------------|
| 1               | 9     | 13    | 4.06           | 99           |
| 2               | 13    | 9     | 3.93           | 98           |
| 3               | 7     | 17    | 4.14           | 100          |
| 4               | 17    | 7     | 3.86           | 97           |
| 5               | 5     | 25    | 4.19           | 100          |
| 6               | 4     | 33    | 4.17           | 100          |
| 7               | 3     | 49    | 4.05           | 100          |
| <b>Averages</b> | --    | --    | <b>4.06</b>    | <b>99.1</b>  |

The average of the  $L_{10}$  ratios for that total degree of freedom was then plotted against the average of the confidence numbers for that total degree of freedom. A straight line was then drawn from the origin through the point corresponding the average  $L_{10}$  ratio and average confidence number. At the origin, the confidence number is 0.5, and the  $L_{10}$  ratio is 1.0—ie there is no difference between the two populations being compared.

These points and lines were first plotted on the scale used by Johnson in his book to evaluate the accuracy of the method by which they were generated. These graphs can be seen in Figures 20 - 24.

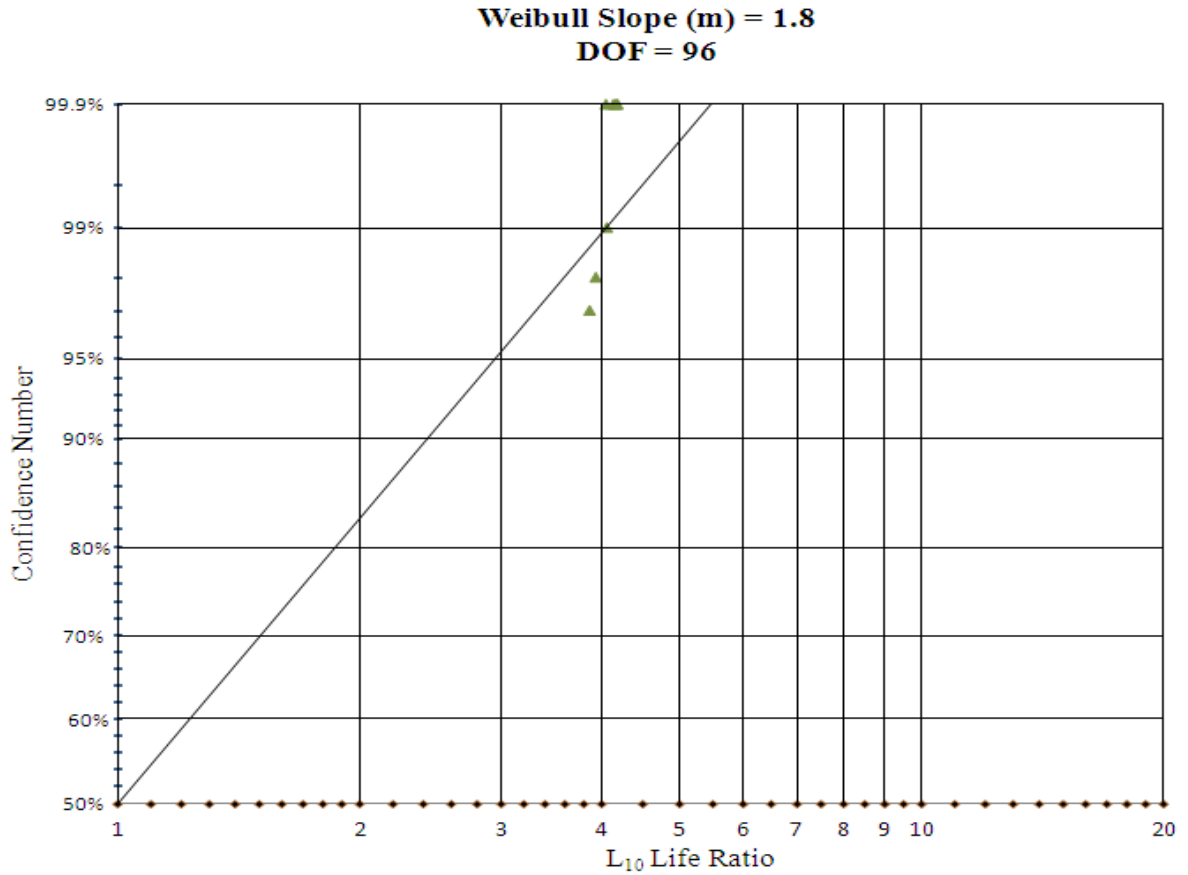


Figure 20: Monte Carlo Simulated Confidence Number Curve Based Upon Linear curve fit for DOF 96 at  $m=1.8$

Table 18 contains the coordinates of the data points in Figure 20 and the average point to which the best fit curve was fitted.

TABLE 18:  $L_{10}$  RATIOS AND CONFIDENCE NUMBERS USED AS COORDIANTES TO CREATE CONFIDENCE NUMBER CURVE AT  $M=1.8$  AND  $TDOF=96$

|                 | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
|-----------------|-------|-------|----------------|--------------|
| 1               | 9     | 13    | 4.06           | 99           |
| 2               | 13    | 9     | 3.93           | 98           |
| 3               | 7     | 17    | 4.14           | 100          |
| 4               | 17    | 7     | 3.86           | 97           |
| 5               | 5     | 25    | 4.19           | 100          |
| 6               | 4     | 33    | 4.17           | 100          |
| 7               | 3     | 49    | 4.05           | 100          |
| <b>Averages</b> | --    | --    | 4.06           | 99.1         |

**Weibull Slope (m) = 1.8**  
**DOF = 48**

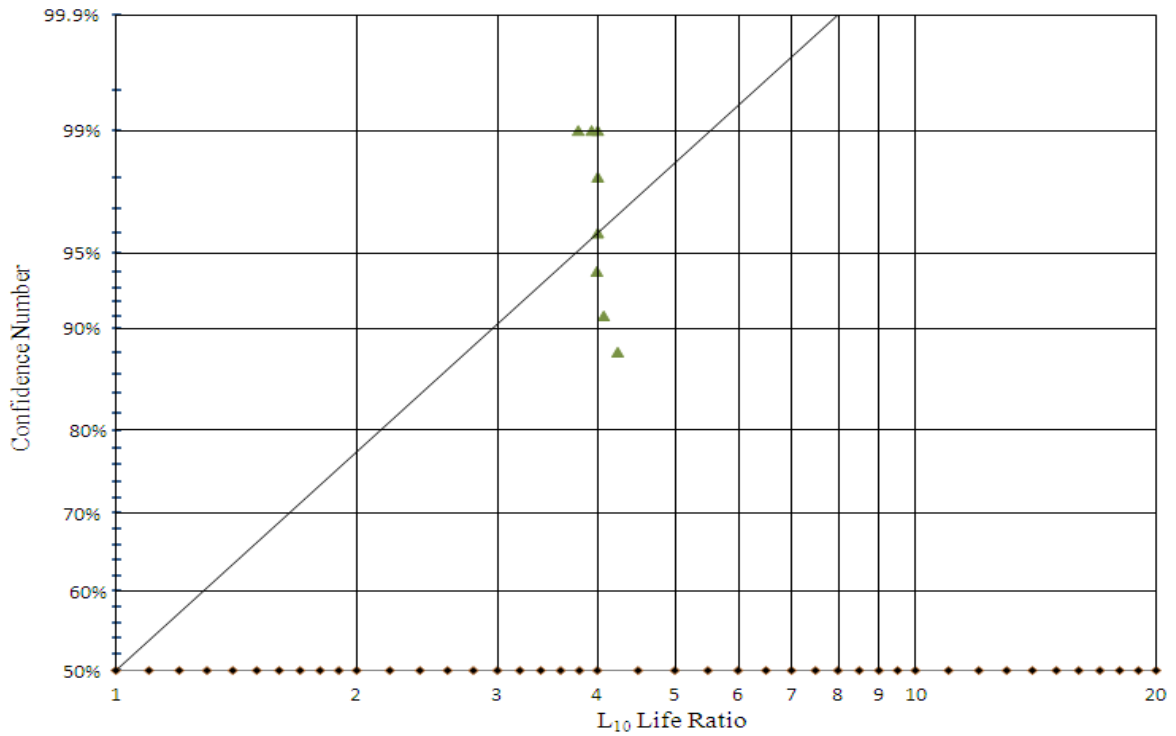


Figure 21: Monte Carlo Simulated Confidence Number Curve Based Upon Linear curve fit for DOF 48 at m=1.8

Table 19 contains the coordinates of the data points in Figure 21 and the average point to which the best fit curve was fitted.

TABLE 19: L<sub>10</sub> RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AT M=1.8 AND TDOF=48

|                 | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
|-----------------|----------------------|----------------------|-----------------------------|---------------------|
| 1               | 7                    | 9                    | 4.00                        | 98                  |
| 2               | 9                    | 7                    | 4.00                        | 96                  |
| 3               | 5                    | 13                   | 4.00                        | 99                  |
| 4               | 13                   | 5                    | 3.99                        | 94                  |
| 5               | 4                    | 17                   | 3.93                        | 99                  |
| 6               | 17                   | 4                    | 4.07                        | 91                  |
| 7               | 3                    | 25                   | 3.78                        | 99                  |
| 8               | 25                   | 3                    | 4.24                        | 88                  |
| <b>Averages</b> | --                   | --                   | 4.00                        | 96                  |



**Weibull Slope (m) = 1.8**  
**DOF = 24**

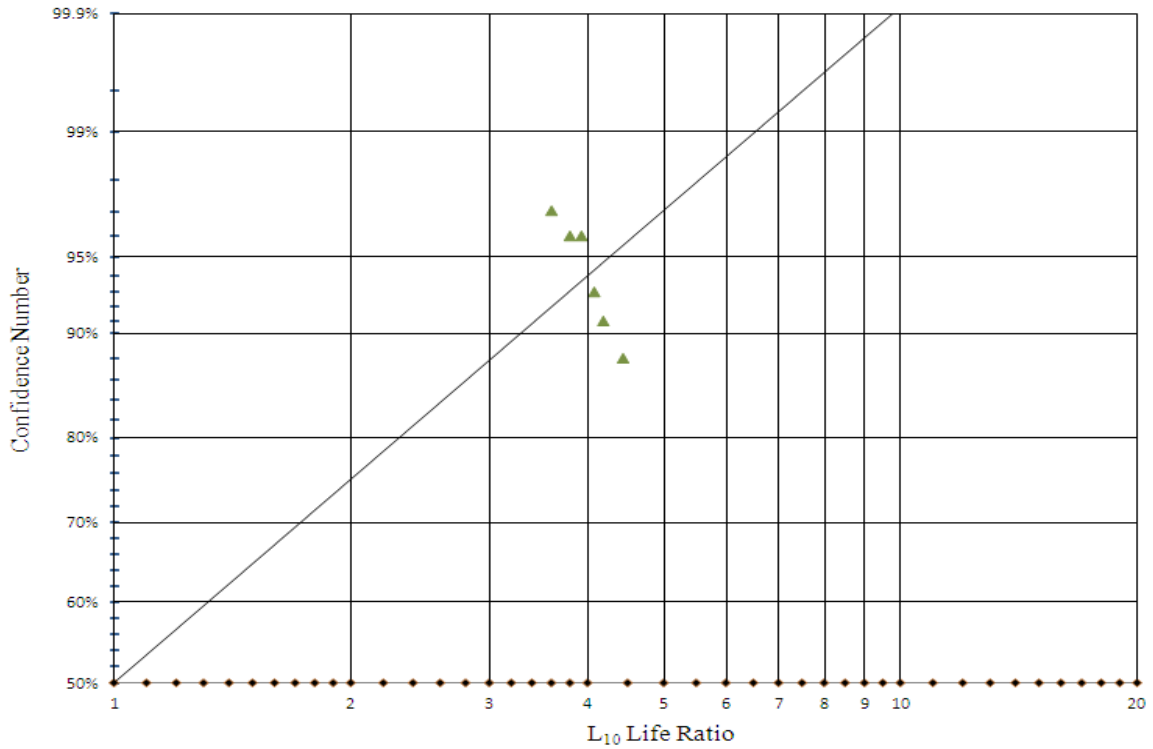


Figure 22: Monte Carlo Simulated Confidence Number Curve Based Upon Linear curve fit for DOF 24 at m=1.8

Table 20 contains the coordinates of the data points in Figure 22 and the average point to which the best fit curve was fitted.

TABLE 20: L<sub>10</sub> RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AT M=1.8 AND TDOF=24

|                 | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
|-----------------|----------------------|----------------------|-----------------------------|---------------------|
| 1               | 5                    | 7                    | 3.93                        | 96                  |
| 2               | 7                    | 5                    | 4.08                        | 93                  |
| 3               | 4                    | 9                    | 3.80                        | 96                  |
| 4               | 9                    | 4                    | 4.19                        | 91                  |
| 5               | 3                    | 13                   | 3.60                        | 97                  |
| 6               | 13                   | 3                    | 4.44                        | 88                  |
| <b>Averages</b> | --                   | --                   | 4.01                        | 94                  |

**Weibull Slope (m) = 1.8**  
**DOF = 12**

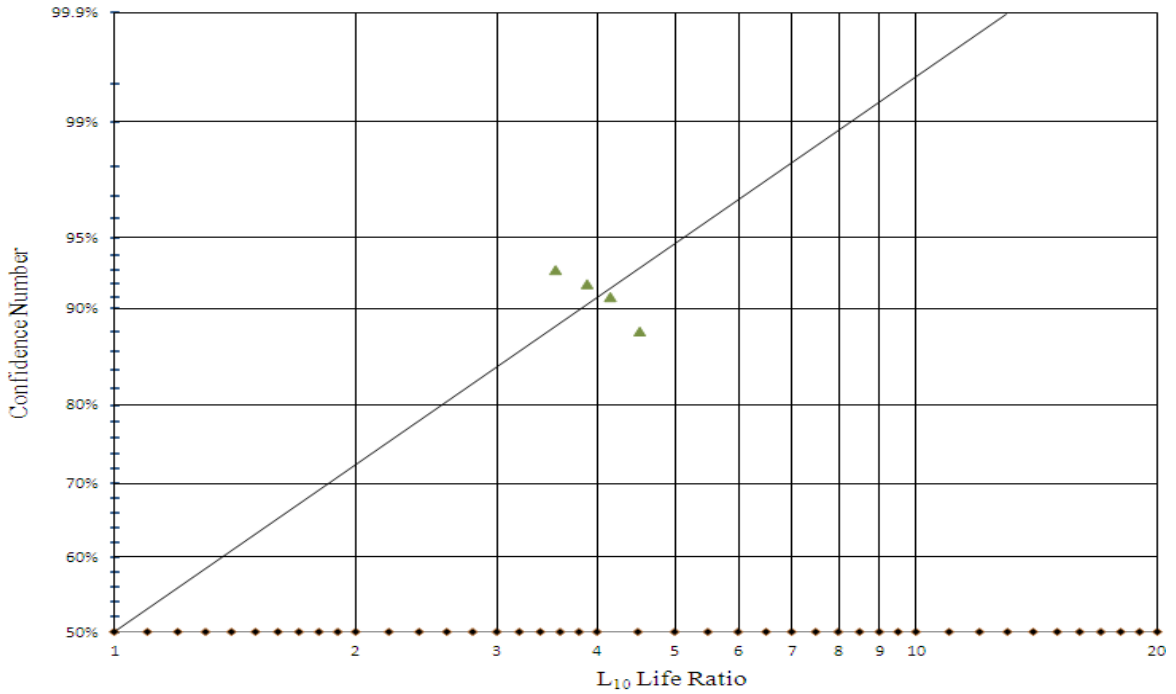


Figure 23: Monte Carlo Simulated Confidence Number Curve Based Upon Linear curve fit for DOF 12 at m=1.8

Table 21 contains the coordinates of the data points in Figure 23 and the average point to which the best fit curve was fitted.

TABLE 21: L<sub>10</sub> RATIOS AND CONFIDENCE NUMBERS USED AS COORDIANTES TO CREATE CONFIDENCE NUMBER CURVE AT M=1.8 AND TDOF=12

|                 | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
|-----------------|----------------------|----------------------|-----------------------------|---------------------|
| 1               | 4                    | 5                    | 3.88                        | 92                  |
| 2               | 5                    | 4                    | 4.15                        | 91                  |
| 3               | 3                    | 7                    | 3.54                        | 93                  |
| 4               | 7                    | 3                    | 4.52                        | 88                  |
| <b>Averages</b> | --                   | --                   | 4.02                        | 91                  |

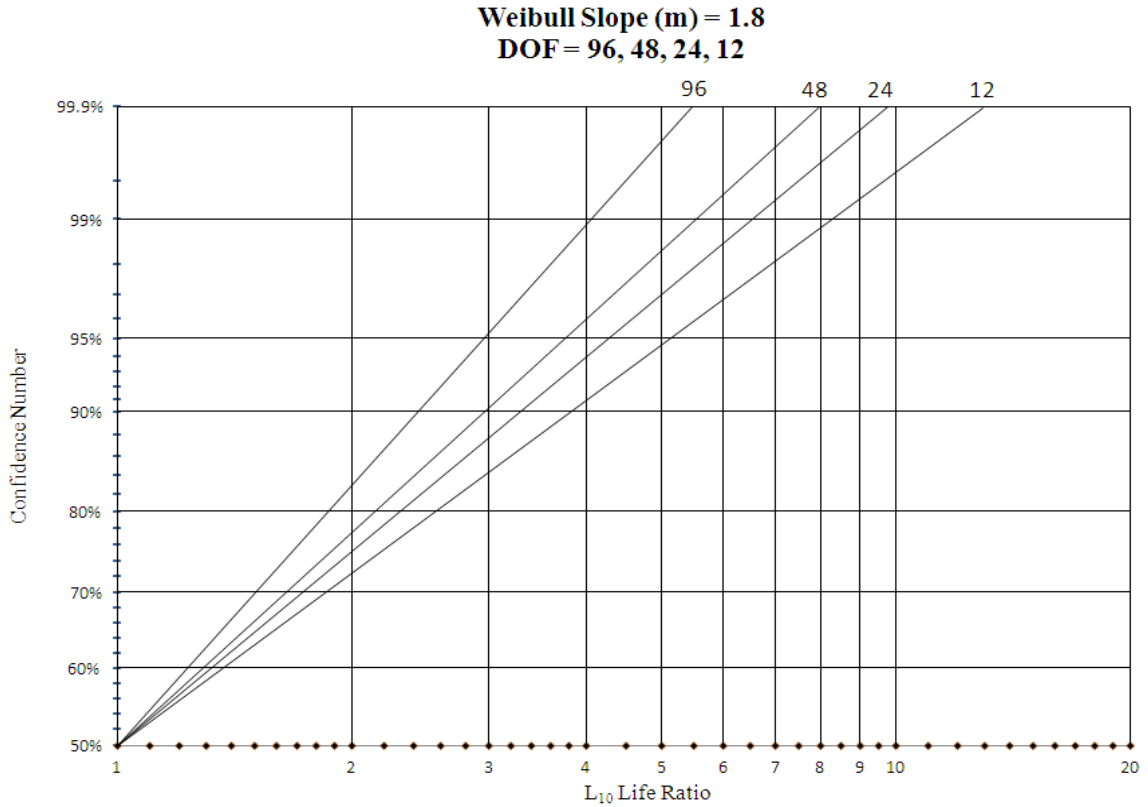


Figure 24: Monte Carlo Simulated Confidence Number Curves Based Upon Linear curve fit for DOF 96,48,24,12 at m=1.8

The average values from tables 18-21 were used to generate Figure 24. Table 22 contains the coordinates of the data points to which the best fit curves were fitted in Figure 8.

TABLE 22: AVERAGE VALUES OF L<sub>10</sub> RATIOS AND CONFIDENCE NUMBER USED TO CREATE CONFIDENCE NUMBER CURVES AT M=1.8 AND THE INDICATED TDOF

|   | <b>TDOF</b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
|---|-------------|-----------------------------|---------------------|
| 1 | 96          | 4.06                        | 99                  |
| 2 | 48          | 4.00                        | 96                  |
| 3 | 24          | 4.01                        | 94                  |
| 4 | 12          | 4.02                        | 91                  |

The individual data points resulting from the different sample size combinations in all but 1 case (TDOF=96; Figure 20) fell evenly distributed on either side of the best fit curve. This is to say that in terms of how many points fell above and how many fell below the best fit curve were equal, but it cannot be said, however, that they were distributed evenly in terms of magnitude. From further examination it appears that the points generated using the same sample size populations in inverse order showed characteristics of mirroring across the best fit line. This trend or nearly mirroring values can be observed in the fact that in the majority of the plots the same number of points fall above and below the best fit line. In the cases of TDOF=24 and TDOF=12, Figures 22 and 23 respectively, this mirroring is more clear than in the other two cases examined. For TDOF=12 the mirroring across the best fit line is the most apparent. It is also observed as a general trend that as the difference in sample size population,  $n_1$  and  $n_2$ , grows larger in magnitude the corresponding data point lies farther from the best fit line than those combinations that have a smaller difference.

The figures 20-24 were plotted on the scale from Extended Weibull Probability by 3 Cycle Log paper. Due to the fact that Johnson never specifically states what scale he uses for his figures it was necessary to investigate this to further reduce dependence on Johnson's work. Since he did state in his book that some of his figures were plotted on Weibull probability paper this was the first scale that was examined. A blank copy of Extended Weibull Probability by 3 Cycle Log paper can be seen in Figure 25.

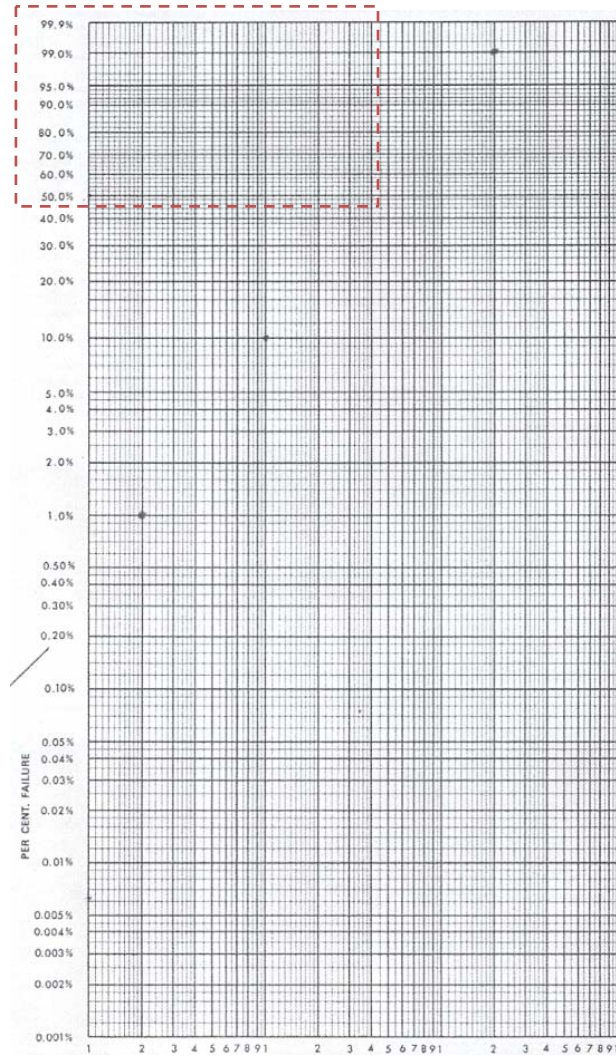


Figure 25: Blank Weibull Probability paper with used portion outlined.

By extracting and enlarging the portion of the paper outlined in figure 25, it was possible to match the scale used in the graphs shown in Figures 20-24 and throughout the rest of this work.

To illustrate that this scale is what was used by Johnson in creating his figures it was necessary to compare his figures to those herein. Figure 26 is a figure from Johnson's book.

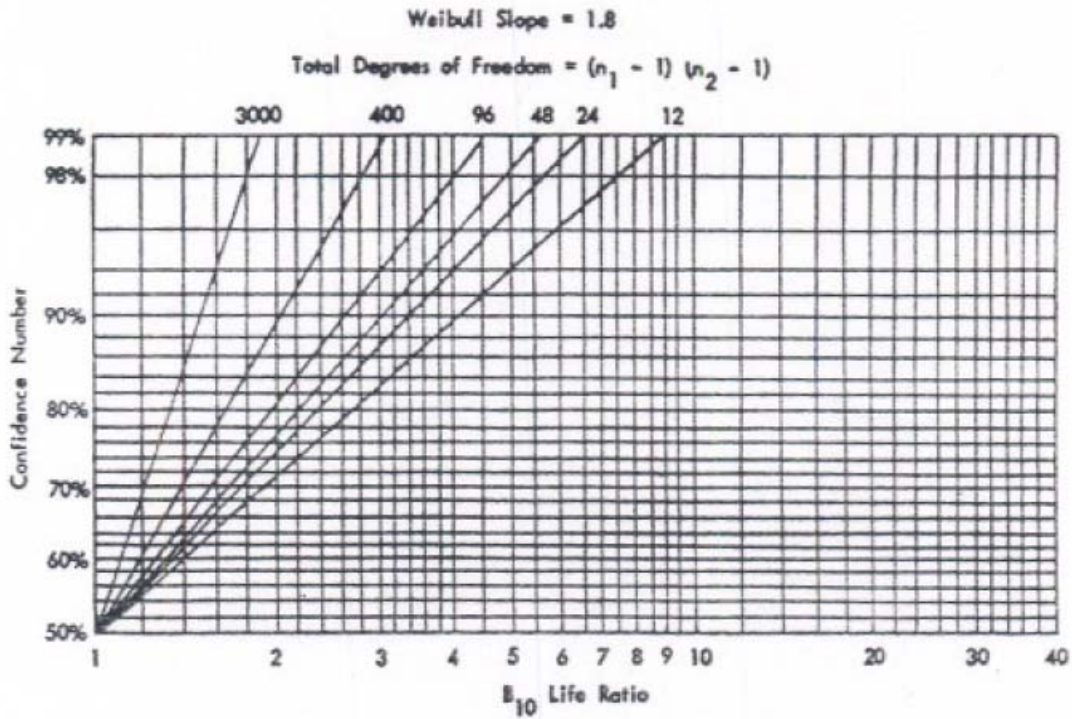


Figure 26: Johnson  $m=1.8$  confidence number figure (Johnson, 1964)

By reading the  $L_{10}$  ratio values where the confidence curves intersect the 99% confidence line from both the above figure and from Figure 8 then overlaying the two on the same graph it was possible to compare them. As illustrated in Figure 27 the fit curves fall very close to one another. This provided a significant level of conviction both in the method being used to generate the confidence curves and that the scale being used is the same one as that used by Johnson. In figure 27, the TDOF values followed by M were generated as part of this study, while those followed by J are those graphically read from Leonard Johnson's figures (Johnson 1964).

**Weibull Slope (m) = 1.8**  
**DOF = 96, 48, 24, 12 - McBride v. Johnson**

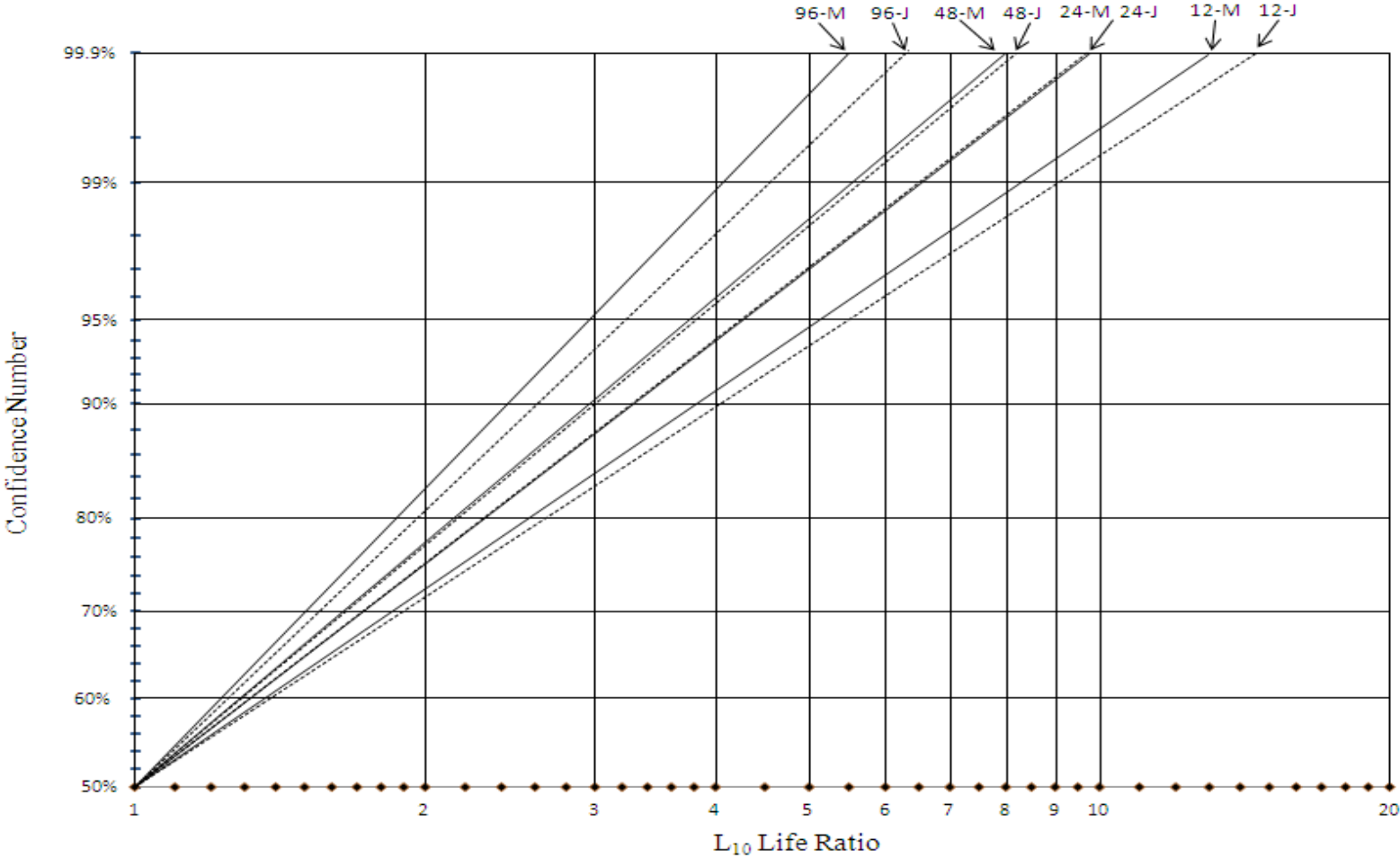


Figure 27: Confidence Number Graphs Based Upon Linear curve fit for DOF 96,48,24,12 at m=1.8 as generated by McBride (M) and Johnson (J)

Table 23 contains the coordinates of the data points to which the best fit curves were fitted in Figure 27.

TABLE 23:  $L_{10}$  RATIOS AND CONFIDENCE NUMBER VALUES USED TO PLOT CONFIDENCE NUMBER CURVES AT  $M=1.8$  AND INDICATED TDOF AS GENERATED BY MCBRIDE AND JOHNSON

|   | DOF | McBride        |              | Johnson        |              |
|---|-----|----------------|--------------|----------------|--------------|
|   |     | $L_{10}$ Ratio | Confidence # | $L_{10}$ Ratio | Confidence # |
| 1 | 96  | 4.06           | 99           | 4.00           | 98           |
| 2 | 48  | 4.00           | 96           | 3.60           | 94           |
| 3 | 24  | 4.01           | 94           | 4.00           | 94           |
| 4 | 12  | 4.02           | 91           | 4.50           | 92           |

In order to illustrate the level of similarity between the curves generated in this work and those generated by Johnson the percent difference in  $L_{10}$  Ratio was calculated at the 90% confidence level. These percent difference values can be seen in Table 24.

TABLE 24: PERCENT DIFFERENCE IN  $L_{10}$  RATIO VALUES AT 90% CONFIDENCE AT  $M=1.8$  AND INDICATED TDOF FROM CONFIDENCE NUMBER CURVES AS GENERATED BY MCBRIDE AND JOHNSON

|   | DOF | McBride        |              | Johnson        |              | % Difference in $L_{10}R$ |        |
|---|-----|----------------|--------------|----------------|--------------|---------------------------|--------|
|   |     | $L_{10}$ Ratio | Confidence # | $L_{10}$ Ratio | Confidence # | Confidence #              | % Diff |
| 1 | 96  | 2.60           | 90           | 2.42           | 90           | 90                        | 7.4    |
| 2 | 48  | 3.01           | 90           | 2.96           | 90           | 90                        | 1.7    |
| 3 | 24  | 3.23           | 90           | 3.23           | 90           | 90                        | 0.0    |
| 4 | 12  | 4.02           | 90           | 3.82           | 90           | 90                        | 5.2    |

The variability in  $L_{10}$  life with sample population size has been documented in Vlcek, Hendricks and Zaretsky (Vlcek et. al. 2003) and Vlcek, Murray, McBride and Hendricks (Vlcek et. al. 2010). As the population size from which the fatigue life is determined gets larger, the variability in fatigue life decreases. A typical “variability cone” from Vlcek, Murray, McBride, and Hendricks is presented as Figure 28. It is likely that confidence



numbers generated for TDOFs with small n values making up the TDOF are less accurate than those generated with two mid-sized n values.

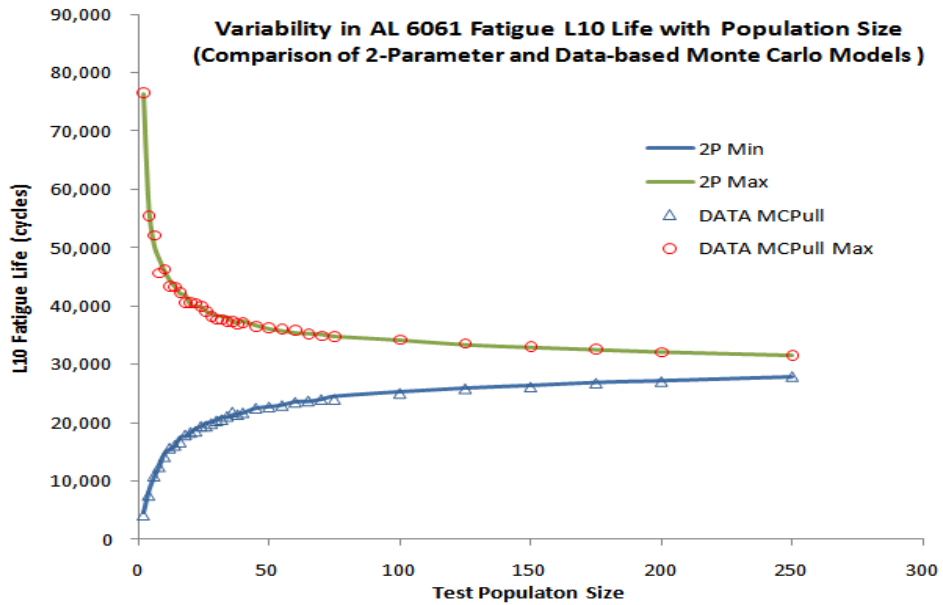


Figure 28: Typical variability cone from Vlcek et al 2010 comparing fatigue life and population size.

The percent difference between the Johnson and the simulated Confidence numbers increases with TDOF. This trend would be impacted by small population sizes contributing to the formation of TDOF. As indicated by the low percent difference, 0.0% – 7.4%, the Monte Carlo based simulation is producing confidence numbers within an engineering acceptable range of previously accepted values. Once this conclusion was made it was possible to move onto the next step of the research.

#### Comparison to Experimental Results

The next phase of this study involved comparing results generated with the generically generated Monte Carlo Confidence Figure to specific experimental conditions and

results. Since as previously discussed it was not possible due to the time constraints of this work to produce a large experimental population, rolling bearing data experimentally produced by Zaretsky and Parker was instead utilized as a comparative test case (Parker et. al. 1978). In a work published by Parker et. al. the fatigue lives of steel balls were experimentally determined using a five-ball fatigue tester (Parker et. al., 1978). Six different combinations of heat treatments or suppliers were used to yield six different test lots which could then be compared to calculate confidence numbers. The specimens tested in the five-ball fatigue tester used in this study were balls of 12.7 mm (1/2 in) diameter. This experimental method was designed to simulate rolling-element fatigue lives of the balls. All of the tests were run at identical temperature, load, and lubrication conditions. The materials chosen, AISI M-50 and 18-4-1 steels, are those primarily used for main-shaft applications of aircraft turbine engines. Of the six different combinations of heat treatment and supplier four of them were completed with no suspensions (Test lots A, C, D, and E) and were therefore the only ones used in this work. The Weibull slope and total degree of freedom of these four test lots were the inputs used for the simulations of this portion of the work and can be seen in Figure 29 from Parker et. al..

[Maximum Hertz stress, 5520 MPa (800 000 psi); contact angle, 30°; shaft speed, 10 700 rpm; temperature 339 K (150° F). ]

| Material  | Melting process | Heat-treatment supplier | Test lot | Fatigue life, millions of stress cycles |                 | Slope | Failure index <sup>a</sup> |
|-----------|-----------------|-------------------------|----------|---|-----------------|-------|----------------------------|
|           |                 |                         |          | L <sub>10</sub>                         | L <sub>50</sub> |       |                            |
| AISI M-50 | VIM-VAR         | N                       | A        | 5.50                                    | 14.0            | 2.01  | 40 out of 40               |
|           |                 | R                       | C        | 10.4                                    | 32.3            | 1.66  | 40 out of 40               |
| 18-4-1    | EFR             | N                       | D        | 3.20                                    | 13.2            | 1.33  | 40 out of 40               |
|           |                 | R                       | B        | 5.26                                    | 33.2            | 1.02  | 38 out of 40               |
|           | VAR             | N                       | E        | 4.50                                    | 25.4            | 1.09  | 40 out of 40               |
|           |                 | R                       | F        | 10.4                                    | 38.2            | 1.45  | 39 out of 39               |

<sup>a</sup>Indicates number of failures out of total number of tests.

Figure 29: Fatigue data as published by Parker et. al.

In order to attempt to reproduce these confidence numbers using the Monte Carlo simulated method it was first necessary to gather all Weibull parameters required to run the Visual Basic program. The inputs again were:  $n_1$ ,  $n_2$ ,  $m_1$ ,  $m_2$ ,  $L_{\beta 1}$ , and  $L_{\beta 2}$ . For this case,  $n_1$  equals 40,  $n_2$  also equals 40. The Weibull slope and the characteristic life depends upon which test lots are being compared. The sample size for each population and corresponding slopes were taken directly from the Parker and Zaretsky paper (Parker et. al., 1978), however, the 2-parameter Weibull equation had to be utilized to calculate the characteristic lives of the two populations since only  $L_{10}$  and  $L_{50}$  life values are reported in Figure 29. These calculations are presented in Chapter 3. The necessary calculations were carried out all four Test Lots (A, C, D, E) being used in this work. These calculated values are reported in Table 25.

TABLE 25: MONTE CARLO INPUTS FOR ZARETSKY BEARING DATA (ZARETSKY ET. AL., 1978)

| Test Lot | Population size (n) | Slope (m) | $L_{10}$   | $L_{\beta}$ |
|----------|---------------------|-----------|------------|-------------|
| A        | 40                  | 2.01      | 5,500,000  | 16,850,000  |
| C        | 40                  | 1.66      | 32,300,000 | 40,340,000  |
| D        | 40                  | 1.33      | 13,200,000 | 17,380,000  |
| E        | 40                  | 1.09      | 25,400,000 | 35,470,000  |

Now that the all of the necessary Weibull parameters were know the Monte Carlo simulations could be run using the  $L_{\beta}$  from Table #. All of the different combinations were run and compared a total of 10,000 times to produce an average confidence number for each pair. The inputs and results for each different pairing are listed in Table 26.

TABLE 26: BEARING DATA RUNS AT TDOF = 1521 USING INPUTS FROM PARKER ET. AL.

| Test Lot D/E     |          |            |            |         |         |            |            |            |
|------------------|----------|------------|------------|---------|---------|------------|------------|------------|
| n1 = 40          |          |            |            |         |         |            |            |            |
| n2 = 40          |          |            |            |         |         |            |            |            |
| m1 = 1.33        |          |            |            |         |         |            |            |            |
| m2 = 1.09        |          |            |            |         |         |            |            |            |
| LB1 = 17,380,000 |          |            |            |         |         |            |            |            |
| LB2 = 35,470,000 |          |            |            |         |         |            |            |            |
| Averages         | C# - L10 | L10-1      | L10-2      | Slope-1 | Slope-2 | Lmean-1    | Lmean-2    | C# - Lmean |
|                  | 83       | 3,836,849  | 5,661,800  | 1.45    | 1.19    | 16,743,867 | 35,629,962 | 100        |
| Test Lot C/E     |          |            |            |         |         |            |            |            |
| n1 = 40          |          |            |            |         |         |            |            |            |
| n2 = 40          |          |            |            |         |         |            |            |            |
| m1 = 1.66        |          |            |            |         |         |            |            |            |
| m2 = 1.09        |          |            |            |         |         |            |            |            |
| LB1 = 40,340,000 |          |            |            |         |         |            |            |            |
| LB2 = 35,470,000 |          |            |            |         |         |            |            |            |
| Averages         | C# - L10 | L10-1      | L10-2      | Slope-1 | Slope-2 | Lmean-1    | Lmean-2    | C# - Lmean |
|                  | 99       | 11,967,396 | 5,662,097  | 1.81    | 1.19    | 37,785,749 | 35,621,955 | 63         |
| Test Lot C/D     |          |            |            |         |         |            |            |            |
| n1 = 40          |          |            |            |         |         |            |            |            |
| n2 = 40          |          |            |            |         |         |            |            |            |
| m1 = 1.66        |          |            |            |         |         |            |            |            |
| m2 = 1.33        |          |            |            |         |         |            |            |            |
| LB1 = 40,340,000 |          |            |            |         |         |            |            |            |
| LB2 = 17,380,000 |          |            |            |         |         |            |            |            |
| Averages         | C# - L10 | L10-1      | L10-2      | Slope-1 | Slope-2 | Lmean-1    | Lmean-2    | C# - Lmean |
|                  | 100      | 11,962,096 | 3,836,930  | 1.81    | 1.45    | 37,784,333 | 16,735,955 | 100        |
| Test Lot A/E     |          |            |            |         |         |            |            |            |
| n1 = 40          |          |            |            |         |         |            |            |            |
| n2 = 40          |          |            |            |         |         |            |            |            |
| m1 = 2.01        |          |            |            |         |         |            |            |            |
| m2 = 1.09        |          |            |            |         |         |            |            |            |
| LB1 = 16,850,000 |          |            |            |         |         |            |            |            |
| LB2 = 35,470,000 |          |            |            |         |         |            |            |            |
| Averages         | C# - L10 | L10-1      | L10-2      | Slope-1 | Slope-2 | Lmean-1    | Lmean-2    | C# - Lmean |
|                  | 62       | 6,158,159  | 5,664,552  | 2.19    | 1.19    | 15,580,671 | 35,626,477 | 100        |
| Test Lot A/D     |          |            |            |         |         |            |            |            |
| n1 = 40          |          |            |            |         |         |            |            |            |
| n2 = 40          |          |            |            |         |         |            |            |            |
| m1 = 2.01        |          |            |            |         |         |            |            |            |
| m2 = 1.33        |          |            |            |         |         |            |            |            |
| LB1 = 16,850,000 |          |            |            |         |         |            |            |            |
| LB2 = 17,380,000 |          |            |            |         |         |            |            |            |
| Averages         | C# - L10 | L10-1      | L10-2      | Slope-1 | Slope-2 | Lmean-1    | Lmean-2    | C# - Lmean |
|                  | 95       | 6,157,691  | 3,836,178  | 2.19    | 1.45    | 15,574,896 | 16,733,444 | 68         |
| Test Lot A/C     |          |            |            |         |         |            |            |            |
| n1 = 40          |          |            |            |         |         |            |            |            |
| n2 = 40          |          |            |            |         |         |            |            |            |
| m1 = 2.01        |          |            |            |         |         |            |            |            |
| m2 = 1.66        |          |            |            |         |         |            |            |            |
| LB1 = 16,850,000 |          |            |            |         |         |            |            |            |
| LB2 = 40,340,000 |          |            |            |         |         |            |            |            |
| Averages         | C# - L10 | L10-1      | L10-2      | Slope-1 | Slope-2 | Lmean-1    | Lmean-2    | C# - Lmean |
|                  | 99       | 6,158,277  | 11,965,029 | 2.19    | 1.81    | 15,578,033 | 37,783,571 | 100        |

After all of the calculation simulations had been run and outputs analyzed it was possible to compare the Monte Carlo simulated confidence numbers to the experimental values. The experimental confidence numbers are shown as originally published in Table 27 from Parker et. al..

TABLE 27: TABLE OF EXPERIMENTAL CONFIDENCE NUMBER PRODUCE BY PARKER ET. AL. (PARKER ET. AL. 1978)

| Material | Melting process | Heat-treatment supplier | Test lot | Ten-percent life, <sup>a</sup> millions of stress cycles | Baseline test lot <sup>b</sup> |    |    |    |    |    |
|----------|-----------------|-------------------------|----------|--|--------------------------------|----|----|----|----|----|
|          |                 |                         |          |  | F                              | C  | A  | B  | E  | D  |
|          |                 |                         |          |  | Confidence number, %           |    |    |    |    |    |
| 18-4-1   | VAR             | R                       | F        | 10.4   | --                             | 50 | 90 | 82 | 89 | 99 |
| M-50     | VIM-VAR         | R                       | C        | 10.4   | 50                             | -- | 92 | 87 | 91 | 99 |
| M-50     | VIM-VAR         | N                       | A        | 5.50   | 90                             | 92 | -- | 53 | 63 | 84 |
| 18-4-1   | EFR             | R                       | B        | 5.26   | 82                             | 87 | 53 | -- | 58 | 74 |
| 18-4-1   | VAR             | N                       | E        | 4.50   | 89                             | 91 | 63 | 58 | -- | 68 |
| 18-4-1   | EFR             | N                       | D        | 3.20   | 99                             | 99 | 84 | 74 | 68 | -- |

<sup>a</sup>Materials listed in descending order of life in five-ball fatigue tester.

<sup>b</sup>The confidence number is the probability, expressed as a percentage, that the baseline test lot would give longer or shorter lives, as the case may be, than the particular lot being considered.

It was then possible to compare the output values generated by the VB macro with those calculated by Zaretsky. This comparison can be seen in Table 28.

TABLE 28: COMPARISON OF SIMULATED AND EXPERIMENTAL CONFIDENCE NUMBERS.

| Test Lot | $m_1/m_2$ | Zaretsky Confidence # | McBride Confidence # | % Difference |
|----------|-----------|-----------------------|----------------------|--------------|
| D/E      | 1.33/1.09 | 68                    | 83                   | 22           |
| C/E      | 1.66/1.09 | 91                    | 99                   | 9            |
| C/D      | 1.66/1.33 | 99                    | 100                  | 1            |
| A/E      | 2.01/1.09 | 63                    | 62                   | 2            |
| A/D      | 2.01/1.33 | 84                    | 95                   | 13           |
| A/C      | 2.01/1.66 | 92                    | 95                   | 3            |

As shown in Table 28 most of the simulated comparisons, with the exception of D/E, seem to agree closely with the experimental confidence numbers. When test lots D and E were compared the resulting percent error was 22%. This is a relatively high percent difference that is unexplainable at this point. To ensure that there was not an error in running the simulation for this combination it was repeated with the same input parameters for another 10,000 cycles. The resulting confidence number was 83% just like the first run. The relatively high level of similarity between the simulated and

experimentally-graphically determined confidence numbers for most of the pairs results in the conclusion that this method is acceptable for evaluating relative confidence numbers between two different test populations having different Weibull slopes and characteristic lives.

#### Using Monte Carlo Simulated Confidence Curves with Experimental Scenario

The total degree of freedom at which the Zaretsky and Parker experimental bearing data was calculated was 1521. Previously graphs were generated at multiple degrees of freedom all at a Weibull slope of 1.8. In an attempt to improve the comparison of the simulated confidence number figures with the experimental numbers graphically determined, additional Confidence figure curves were constructed in a similar manner as in the earlier section but at a TDOF of 1521 for the specific test parameters rather than the generic-universal parameters used earlier. Figures 30 thru 34 are Monte Carlo simulated confidence curves at a TDOF of 1521 and slopes of 1.8, 2.01, 1.09, 1.66, and 1.33 (the slopes corresponding to the Parker and Zaretsky results from Figure 29, with the exception of 1.8). The  $L_{10}$  ratio and confidence numbers corresponding to the plotted points are also listed for each figure in Tables 29-33. The confidence curve was fitted to the origin and a point whose abscissa equaled the average of the three  $L_{10}$  ratios plotted and whose ordinate was set equal to the average of the corresponding confidence numbers for each different figure.

**Weibull Slope (m) = 1.8**  
**DOF = 1521**

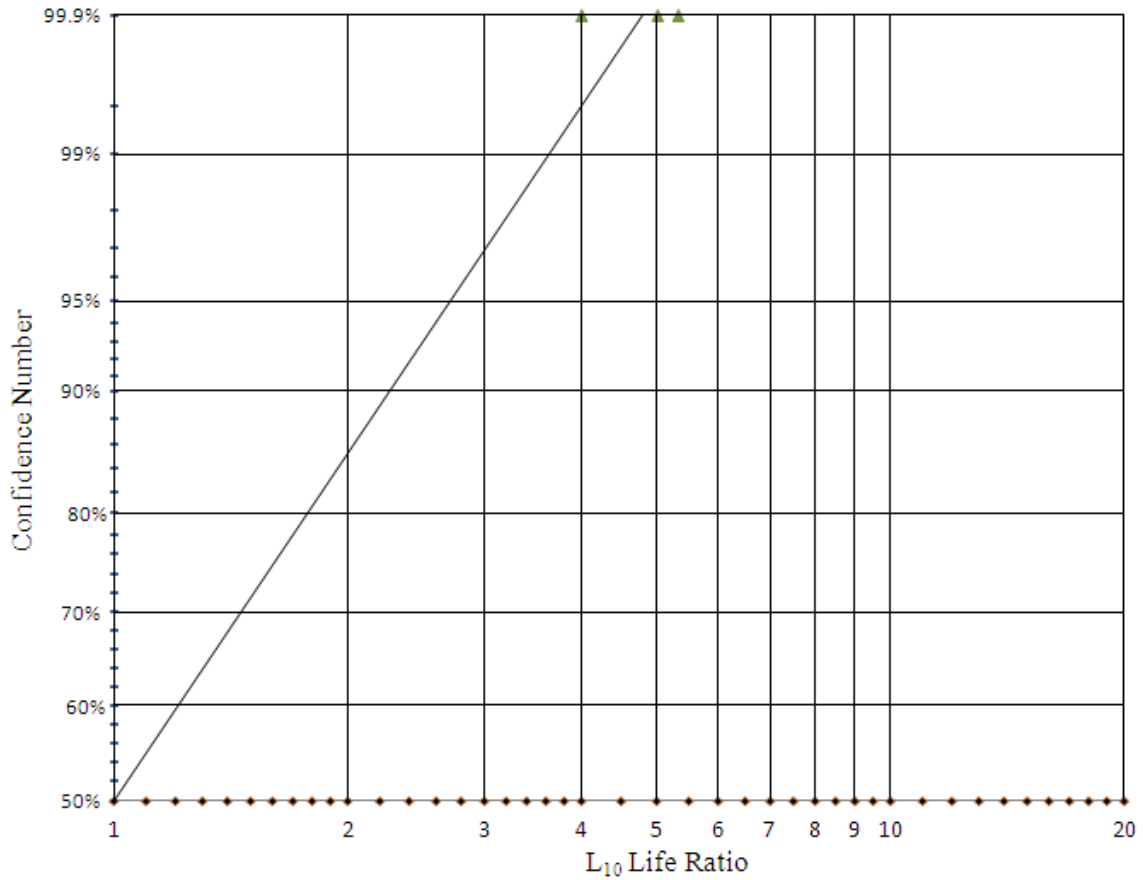


Figure 30: Monte Carlo Simulated Confidence Number Curves Based Upon Linear curve fit for DOF=1521 at slope m=1.8

Table 29 contains the coordinates of the data points to which the best fit curve was fitted in Figure 30.

TABLE 29:  $L_{10}$  RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AT  $M=1.8$  AND  $TDOF=1521$

| <b>m = 1.8; TDOF = 1521</b> |                      |                      |                             |                     |
|-----------------------------|----------------------|----------------------|-----------------------------|---------------------|
|                             | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
| 1                           | 40                   | 40                   | 4.00                        | 100                 |
| 2                           | 14                   | 118                  | 5.02                        | 100                 |
| 3                           | 10                   | 170                  | 5.34                        | 100                 |
| <b>Averages</b>             | --                   | --                   | 4.79                        | 100                 |



**Weibull Slope (m) = 2.01**  
**DOF = 1521**

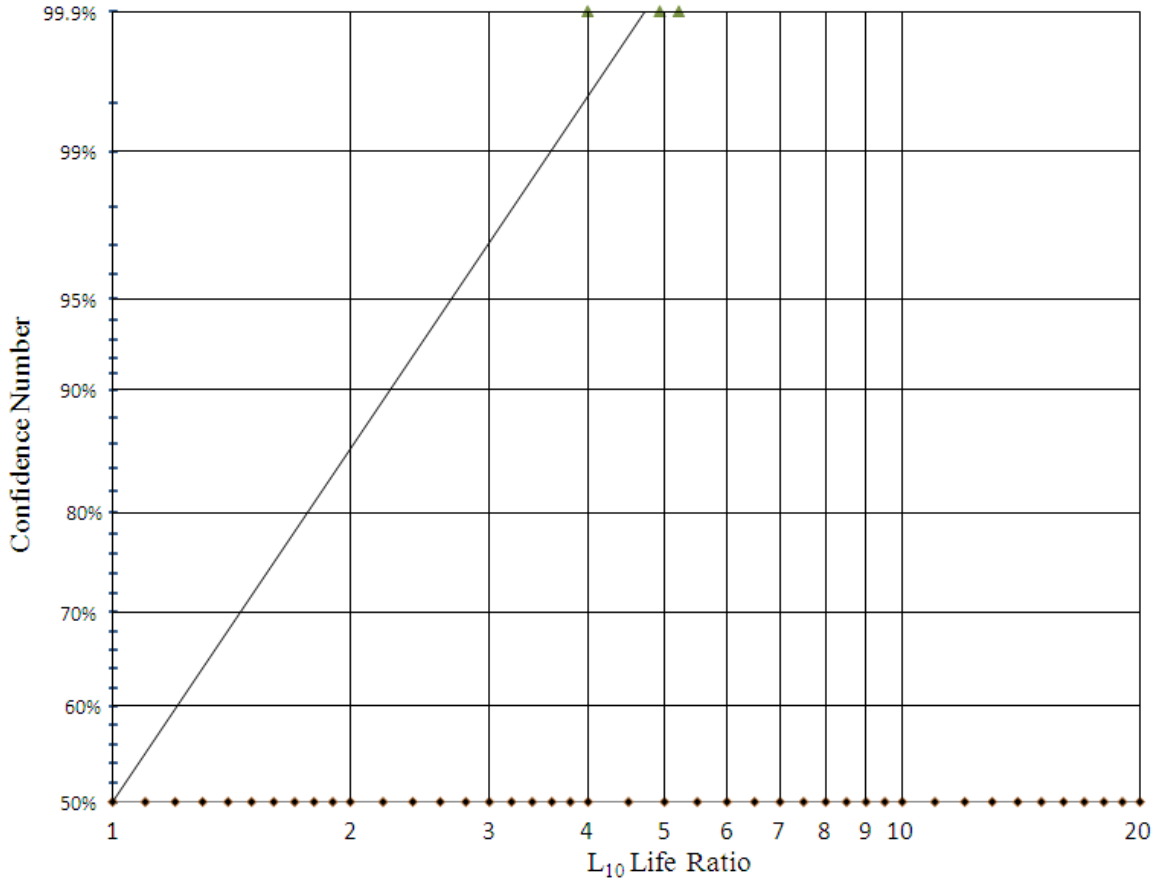


Figure 31: Monte Carlo Simulated Confidence Number Curves Based Upon Linear curve fit for DOF=1521 at slope m=2.01

Table 30 contains the coordinates of the data points to which the best fit curve was fitted in Figure 31.

TABLE 30:  $L_{10}$  RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AT  $M=2.01$  AND  $TDOF=1521$

| <b>m = 2.01; TDOF = 1521</b> |                      |                      |                             |                     |
|------------------------------|----------------------|----------------------|-----------------------------|---------------------|
|                              | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
| 1                            | 40                   | 40                   | 4.00                        | 100                 |
| 2                            | 14                   | 118                  | 4.93                        | 100                 |
| 3                            | 10                   | 170                  | 5.21                        | 100                 |
| <b>Averages</b>              | --                   | --                   | 4.71                        | 100                 |

**Weibull Slope (m) = 1.09**  
**DOF = 1521**

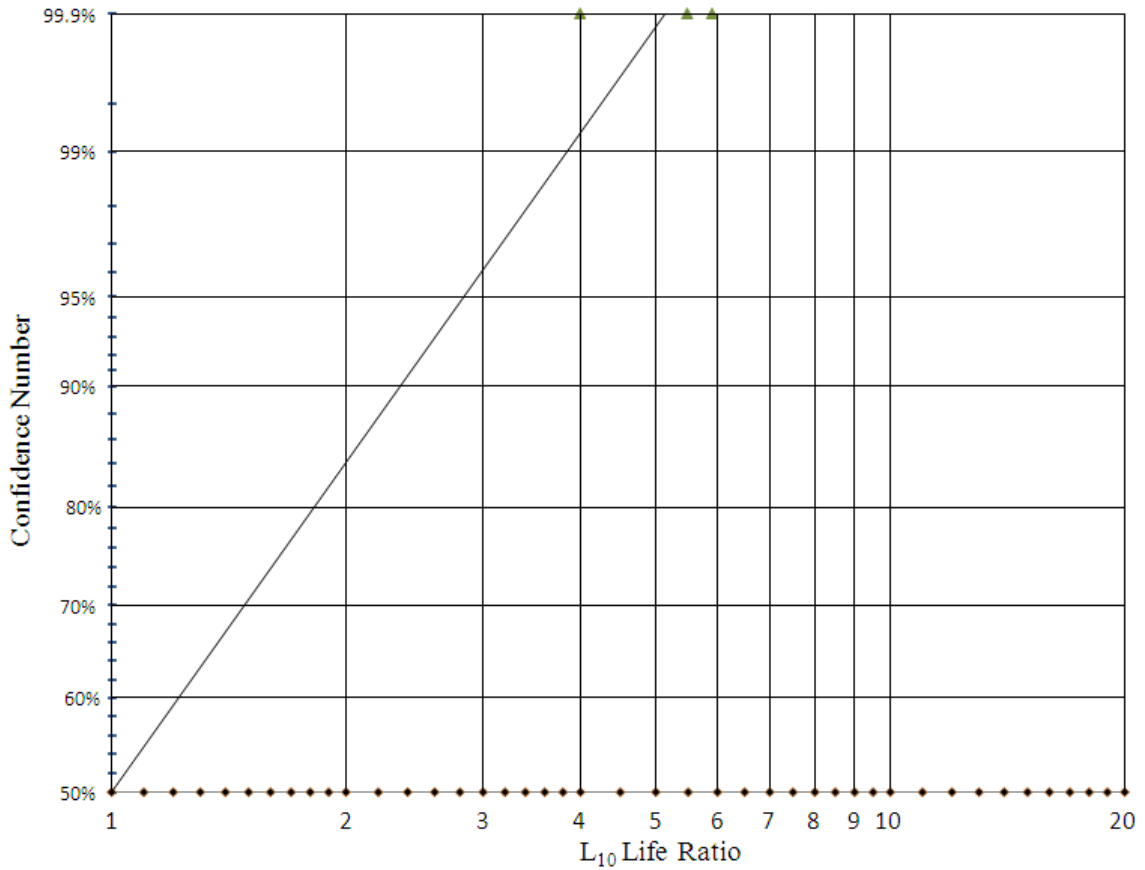


Figure 32: Monte Carlo Simulated Confidence Number Curves Based Upon Linear curve fit for DOF=1521 at slope m=1.09

Table 31 contains the coordinates of the data points to which the best fit curve was fitted in Figure 32.

TABLE 31:  $L_{10}$  RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AT  $M=1.09$  AND  $TDOF=1521$

| <b>m = 1.09; TDOF = 1521</b> |                      |                      |                             |                     |
|------------------------------|----------------------|----------------------|-----------------------------|---------------------|
|                              | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
| <b>1</b>                     | 40                   | 40                   | 4.00                        | 100                 |
| <b>2</b>                     | 14                   | 118                  | 5.49                        | 100                 |
| <b>3</b>                     | 10                   | 170                  | 5.91                        | 100                 |
| <b>Averages</b>              | --                   | --                   | 5.13                        | 100                 |

**Weibull Slope (m) = 1.33**  
**DOF = 1521**

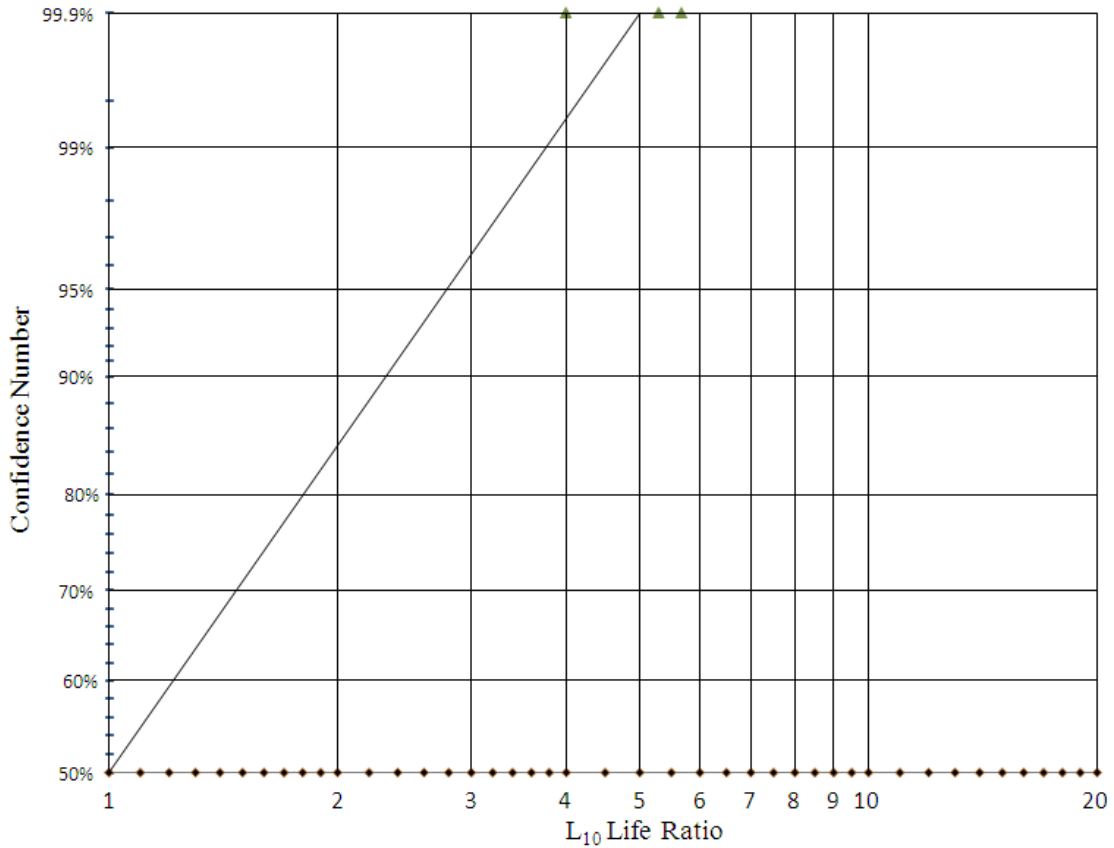


Figure 33: Monte Carlo Simulated Confidence Number Curves Based Upon Linear curve fit for DOF=1521 and slope m=1.33

Table 32 contains the coordinates of the data points to which the best fit curve was fitted in Figure 33.

TABLE 32: L<sub>10</sub> RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AT M=1.33 AND TDOF=1521

| <b>m = 1.33; TDOF = 1521</b> |                      |                      |                             |                     |
|------------------------------|----------------------|----------------------|-----------------------------|---------------------|
|                              | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
| <b>1</b>                     | 40                   | 40                   | 4.00                        | 100                 |
| <b>2</b>                     | 14                   | 118                  | 5.30                        | 100                 |
| <b>3</b>                     | 10                   | 170                  | 5.68                        | 100                 |
| <b>Averages</b>              | --                   | --                   | 4.99                        | 100                 |

**Weibull Slope (m) = 1.66**  
**DOF = 1521**

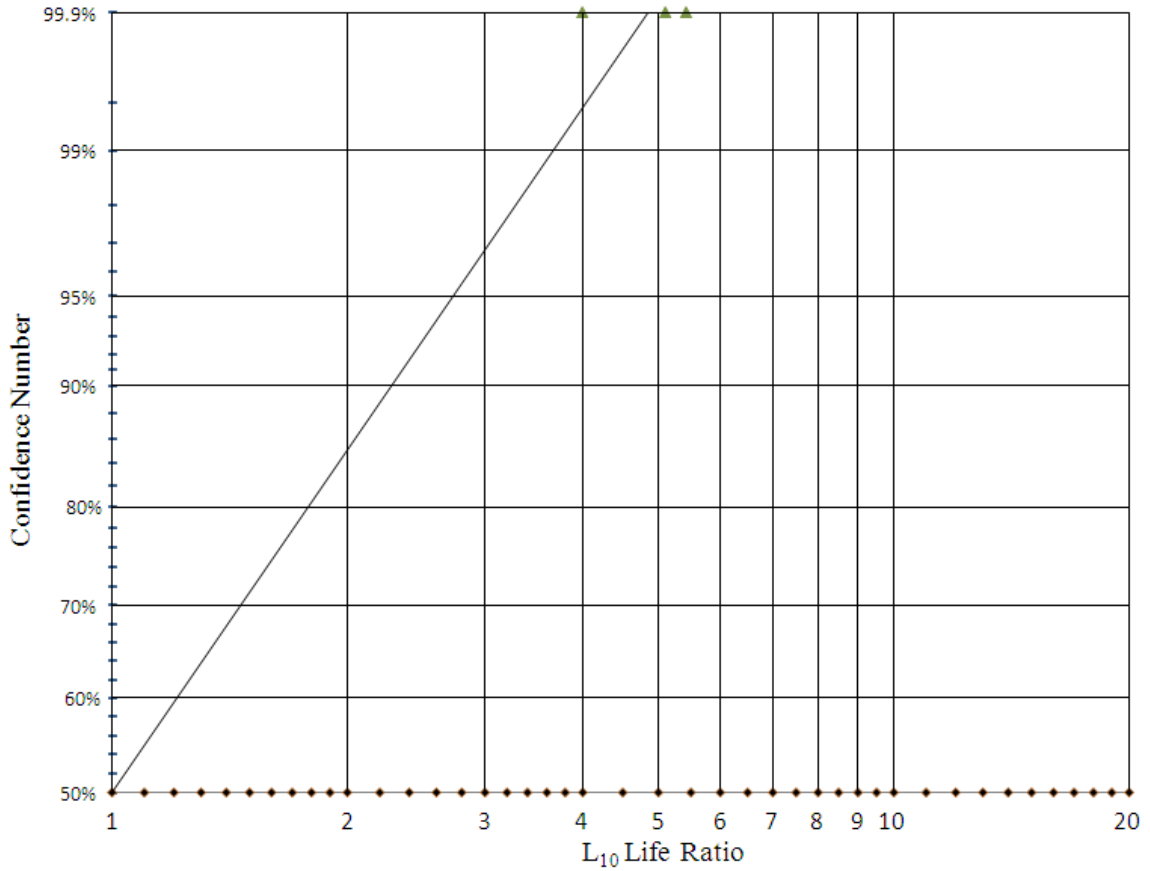


Figure 34: Monte Carlo Simulated Confidence Number Curves Based Upon Linear curve fit for DOF=1521 and slope m=1.66

Table 33 contains the coordinates of the data points to which the best fit curve was fitted in Figure 34.

TABLE 33: L<sub>10</sub> RATIOS AND CONFIDENCE NUMBERS USED AS COORDIANTES TO CREATE CONFIDENCE NUMBER CURVE AT M=1.66 AND TDOF=1521

| <b>m = 1.66; TDOF = 1521</b> |                      |                      |                             |                     |
|------------------------------|----------------------|----------------------|-----------------------------|---------------------|
|                              | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
| 1                            | 40                   | 40                   | 4.00                        | 100                 |
| 2                            | 14                   | 118                  | 5.10                        | 100                 |
| 3                            | 10                   | 170                  | 5.42                        | 100                 |
| <b>Averages</b>              | --                   | --                   | 4.84                        | 100                 |

Johnson describes a graphical method for determining confidence numbers for two data sets that contain two different slopes that involves averaging between the figures for each slope. To explain this method, consider the following example. A confidence number is to be determined for comparing data sets X and Y and their Weibull parameters are found to be those shown in table 34.

TABLE 34: WEIBULL PARAMETERS FOR DATA SETS X AND Y

| $n_x$ | $n_y$ | $m_x$ | $m_y$ | $L_{10,x}$ | $L_{10,y}$ | <b>L<sub>10</sub> Ratio</b> |
|-------|-------|-------|-------|------------|------------|-----------------------------|
| 8     | 10    | 1.4   | 1.8   | 250        | 750        | 3.0                         |

From the data in table 34 it can be said that the TDOF for this case is 80 and the corresponding  $L_{10}$  Ratio is 3.0. In order to find the corresponding confidence number, as described by Johnson, it would be necessary to find the confidence number at TDOF=80 and  $L_{10}$  Ratio=3.0 at a slope of 1.4 and 1.8 and average the two resulting confidence numbers. So if the confidence number at  $m=1.4$  was found to be 87% and the confidence number were at  $m=1.8$  was found to be 92%, then by averaging these two values it could be stated that the confidence number resulting from the comparison of data sets X and Y was 89.5%. To test this method it was carried out for the combinations of Test Lots used by Zaretsky et. al. for Figures 30 thru 34. The resulting average confidence numbers can be seen in Table 35.

TABLE 35: AVERAGE CONFIDENCE NUMBERS DETERMINED USING UNEQUAL SLOPES METHOD PRESENTED BY JOHNSON AS COMPARED TO THOSE FOUND BY PARKER ET. AL. AND MCBRIDE. DATA USED CAN BE FOUND FIGURES 30-34 FOR WHICH ALL CASES WERE FOUND AT TDOF=1521 UTILIZING EXPERIMENTAL DATA FROM ZARETSKY ET. AL.

| Test Lot | $m_1/m_2$ | $L_{10}$ Life ratio | Confidence # at $m_1$ | Confidence # at $m_1$ | Average Confidence # | Zaretsky Confidence # | McBride Confidence # |
|----------|-----------|---------------------|-----------------------|-----------------------|----------------------|-----------------------|----------------------|
| D/E      | 1.33/1.09 | 1.40                | 68                    | 67                    | <b>67.5</b>          | 68                    | 83                   |
| C/E      | 1.66/1.09 | 2.31                | 90                    | 89                    | <b>89.5</b>          | 91                    | 99                   |
| C/D      | 1.66/1.33 | 3.25                | 97.8                  | 97.5                  | <b>97.7</b>          | 99                    | 100                  |
| A/E      | 2.01/1.09 | 1.22                | 61                    | 60                    | <b>60.5</b>          | 63                    | 62                   |
| A/D      | 2.01/1.33 | 1.72                | 79                    | 78.5                  | <b>78.8</b>          | 84                    | 95                   |
| A/C      | 2.01/1.66 | 1.89                | 83                    | 76.5                  | <b>79.8</b>          | 92                    | 95                   |

After examining the confidence numbers produced using Johnson's unequal Weibull slopes method of averaging it can be said that the method produces acceptable numbers when compared to the experimental results produced by Parker et. al.. The results compare less favorably; however, to the confidence numbers produced using the separate Test Lot conditions as inputs to the VB program.

Figures 30-34 cannot be used in their current form to attempt to graphically determine the confidence numbers by directly reading from one figure for the different combinations of test lots because they were plotted at a single slope and each combination of two test lots all have two different slopes. In order to use these figures it was thought that by averaging the slopes for the two different test lots being compared this could possibly result in a confidence number curve which would allow for the confidence number to be graphically determined from a single figure. This was done for all of the different combinations of test lots and 6 new figures (Figure 35 thru Figure 40) were created. Once the figure was created the simulated  $L_{10}$  ratios and confidence numbers produce by Parker et. al. and those produced in this work, from Table 26, were plotted in hopes that they would fall along the confidence curve. The combined slope figures and the values used to create them can be seen on the following pages in figures 35 thru 40.

**Test Lots A & E**  
**Weibull Slope (m) = Avg(2.01+1.09) = 1.55**  
**DOF = 1521**

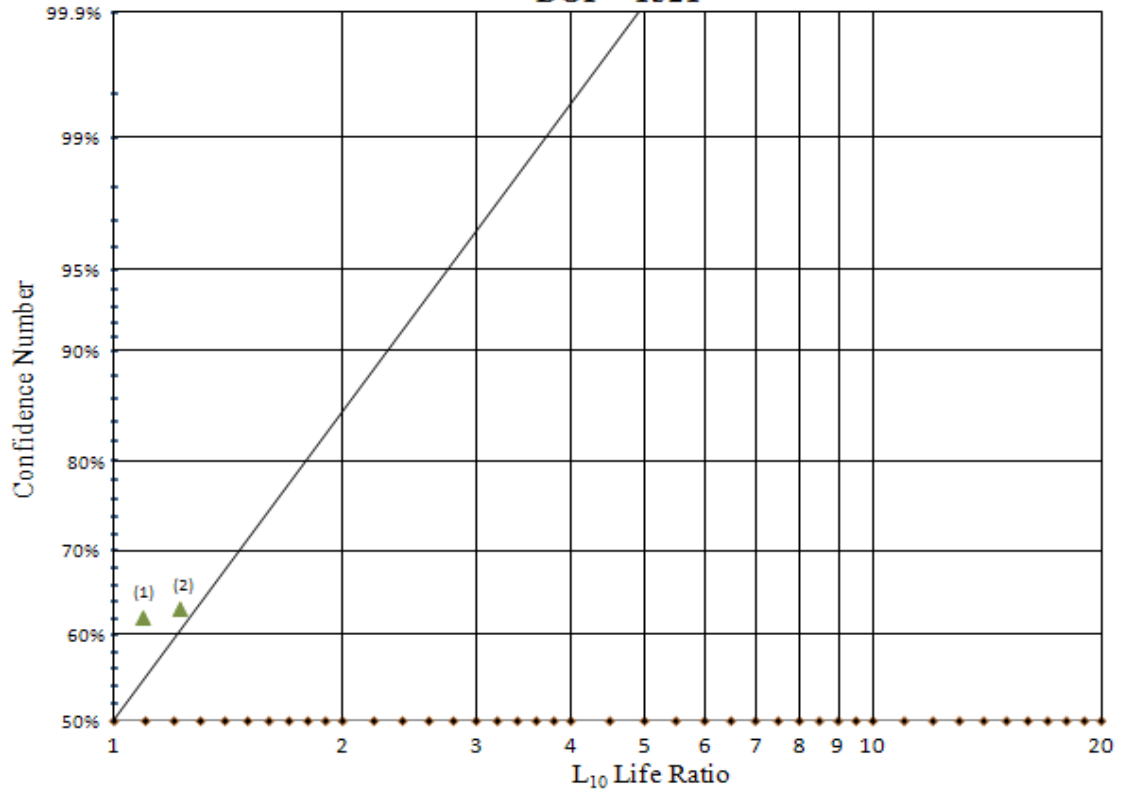


Figure 35: Confidence Number Linear curve fit for TDOF=1521 and average slope  $m=1.55$  using average inputs. Confidence numbers generated by McBride (1) and Parker (2) displayed as data points.

Table 36 contains the coordinates of the data points to which the best fit curve was fitted in Figure 35.

TABLE 36:  $L_{10}$  RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AND DATA POINTS FOR TDOF=1521 AND AVERAGE SLOPE  $M=1.55$

| <b>A/E: <math>m = \text{Avg}(2.01+1.09)</math>; TDOF = 1521</b>       |       |       |                |              |
|---|-------|-------|----------------|--------------|
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| 2.01 Averages   | --    | --    | 5.13           | 100          |
| 1.66 Averages   | --    | --    | 4.71           | 100          |
| <b>Averages</b>   | --    | --    | 4.92           | 100          |
| <b>Simulated <math>L_{10}</math> Ratio &amp; Confidence Number</b>    |       |       |                |              |
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| <b>(1) A/E Averages</b>   | 40    | 40    | 1.09           | 62           |
| <b>Experimental <math>L_{10}</math> Ratio &amp; Confidence Number</b> |       |       |                |              |
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| <b>(2) A/E Averages</b>   | 40    | 40    | 1.22           | 63           |



**Test Lots A & D**  
**Weibull Slope (m) = Avg(2.01+1.33) = 1.67**  
**DOF = 1521**

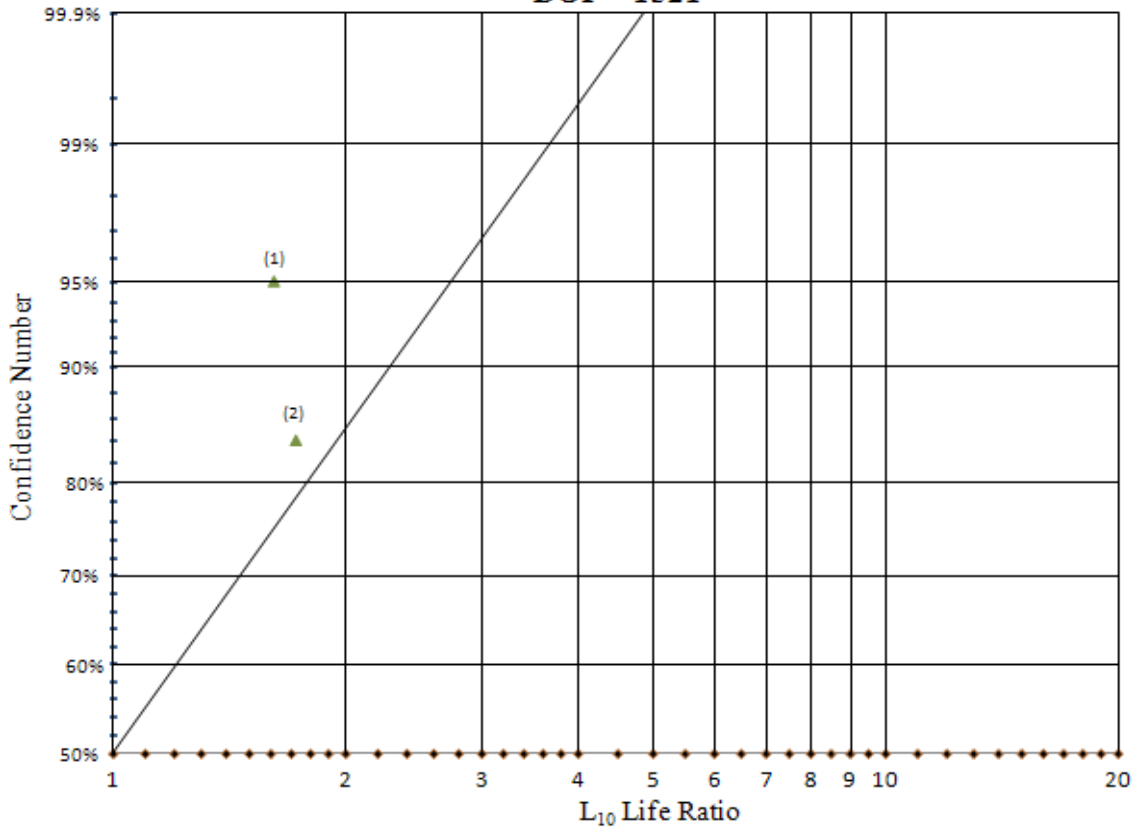


Figure 36: Confidence Number Linear curve fit for TDOF=1521 and average slope  $m=1.67$  using average inputs. Confidence numbers generated by McBride (1) and Parker (2) displayed as data points.

Table 37 contains the coordinates of the data points to which the best fit curve was fitted in Figure 36.

TABLE 37:  $L_{10}$  RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AND DATA POINTS FOR TDOF=1521 AND AVERAGE SLOPE  $M=1.67$

| <b>A/D: <math>m = \text{Avg}(2.01+1.66)</math>; TDOF = 1521</b>       |       |       |                |              |
|---|-------|-------|----------------|--------------|
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| 2.01 Averages   | --    | --    | 4.99           | 100          |
| 1.66 Averages   | --    | --    | 4.71           | 100          |
| <b>Averages</b>   | --    | --    | 4.85           | 100          |
| <b>Simulated <math>L_{10}</math> Ratio &amp; Confidence Number</b>    |       |       |                |              |
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| <b>(1) A/D Averages</b>   | 40    | 40    | 1.61           | 95           |
| <b>Experimental <math>L_{10}</math> Ratio &amp; Confidence Number</b> |       |       |                |              |
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| <b>(2) A/D Averages</b>   | 40    | 40    | 1.72           | 84           |

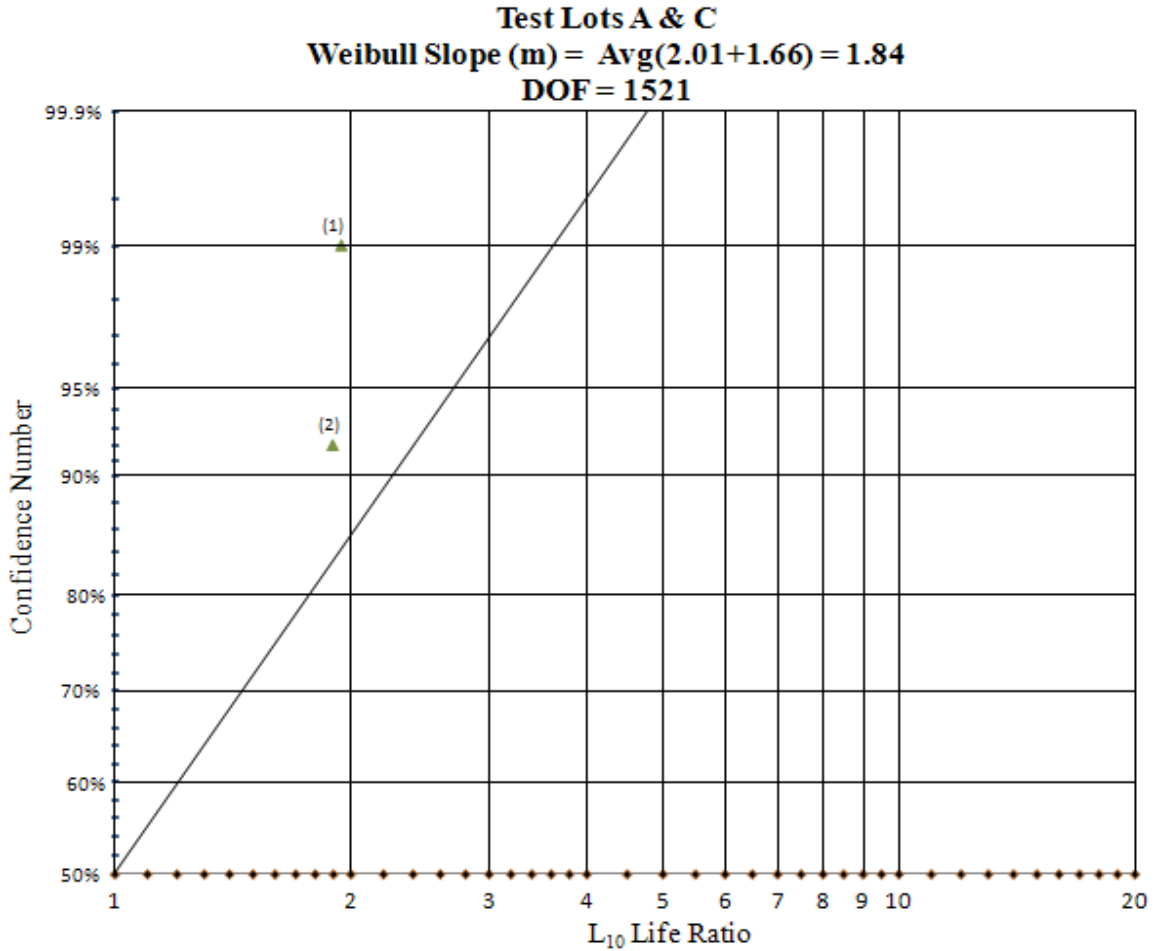


Figure 37: Confidence Number Linear curve fit for TDOF=1521 and average slope  $m=1.84$  using average inputs. Confidence numbers generated by McBride (1) and Parker (2) displayed as data points.

Table 38 contains the coordinates of the data points to which the best fit curve was fitted in Figure 37.

TABLE 38: L<sub>10</sub> RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AND DATA POINTS FOR TDOF=1521 AND AVERAGE SLOPE  $M=1.84$

| <b>A/C: <math>m = \text{Avg}(2.01+1.66)</math>; TDOF = 1521</b> |       |       |                       |              |
|---|-------|-------|-----------------------|--------------|
|   | $n_1$ | $n_2$ | L <sub>10</sub> Ratio | Confidence # |
| 2.01 Averages   | --    | --    | 4.84                  | 100          |
| 1.66 Averages   | --    | --    | 4.71                  | 100          |
| <b>Averages</b>   | --    | --    | 4.78                  | 100          |
| <b>Simulated L10 Ratio &amp; Confidence Number</b>              |       |       |                       |              |
|   | $n_1$ | $n_2$ | L <sub>10</sub> Ratio | Confidence # |
| <b>(1) A/C Averages</b>   | 40    | 40    | 1.94                  | 99           |
| <b>Experimental L10 Ratio &amp; Confidence Number</b>           |       |       |                       |              |
|   | $n_1$ | $n_2$ | L <sub>10</sub> Ratio | Confidence # |
| <b>(2) A/C Averages</b>   | 40    | 40    | 1.89                  | 92           |

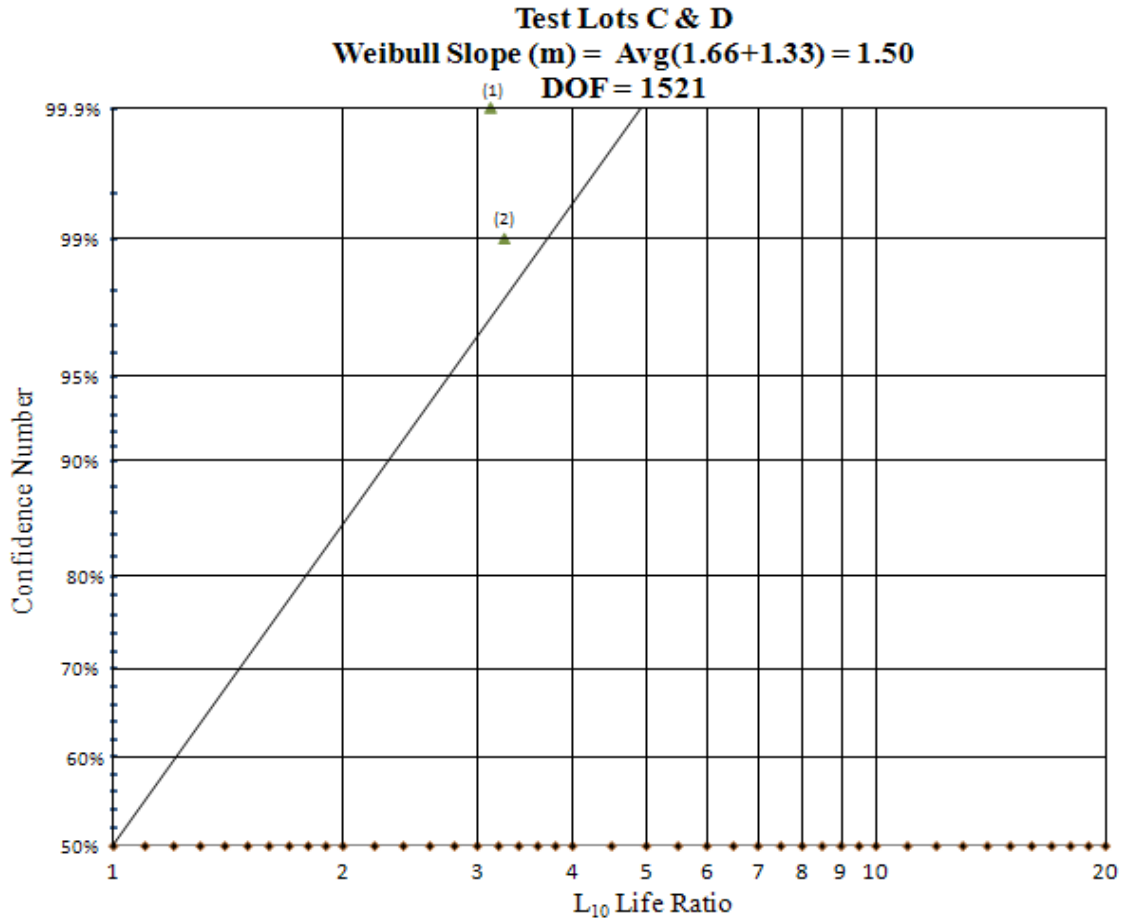


Figure 38: Confidence Number Linear curve fit for TDOF=1521 and average slope  $m=1.50$  using average inputs. Confidence numbers generated by McBride (1) and Parker (2) displayed as data points.

Table 39 contains the coordinates of the data points to which the best fit curve was fitted in Figure 38.

TABLE 39: L<sub>10</sub> RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AND DATA POINTS FOR TDOF=1521 AND AVERAGE SLOPE  $M=1.50$

| <b>C/D: <math>m = \text{Avg}(1.66+1.33)</math>; TDOF = 1521</b> |                      |                      |                             |                     |
|---|----------------------|----------------------|-----------------------------|---------------------|
|   | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
| 1.66 Averages   | --                   | --                   | 4.99                        | 100                 |
| 1.33 Averages   | --                   | --                   | 4.84                        | 100                 |
| <b>Averages</b>   | --                   | --                   | 4.92                        | 100                 |
| <b>Simulated L10 Ratio &amp; Confidence Number</b>              |                      |                      |                             |                     |
|   | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
| <b>(1) C/D Averages</b>   | 40                   | 40                   | 3.12                        | 100                 |
| <b>Experimental L10 Ratio &amp; Confidence Number</b>           |                      |                      |                             |                     |
|   | <b>n<sub>1</sub></b> | <b>n<sub>2</sub></b> | <b>L<sub>10</sub> Ratio</b> | <b>Confidence #</b> |
| <b>(2) C/D Averages</b>   | 40                   | 40                   | 3.25                        | 99                  |

**Test Lots C & E**  
**Weibull Slope (m) = Avg(1.66+1.09) = 1.38**  
**DOF = 1521**

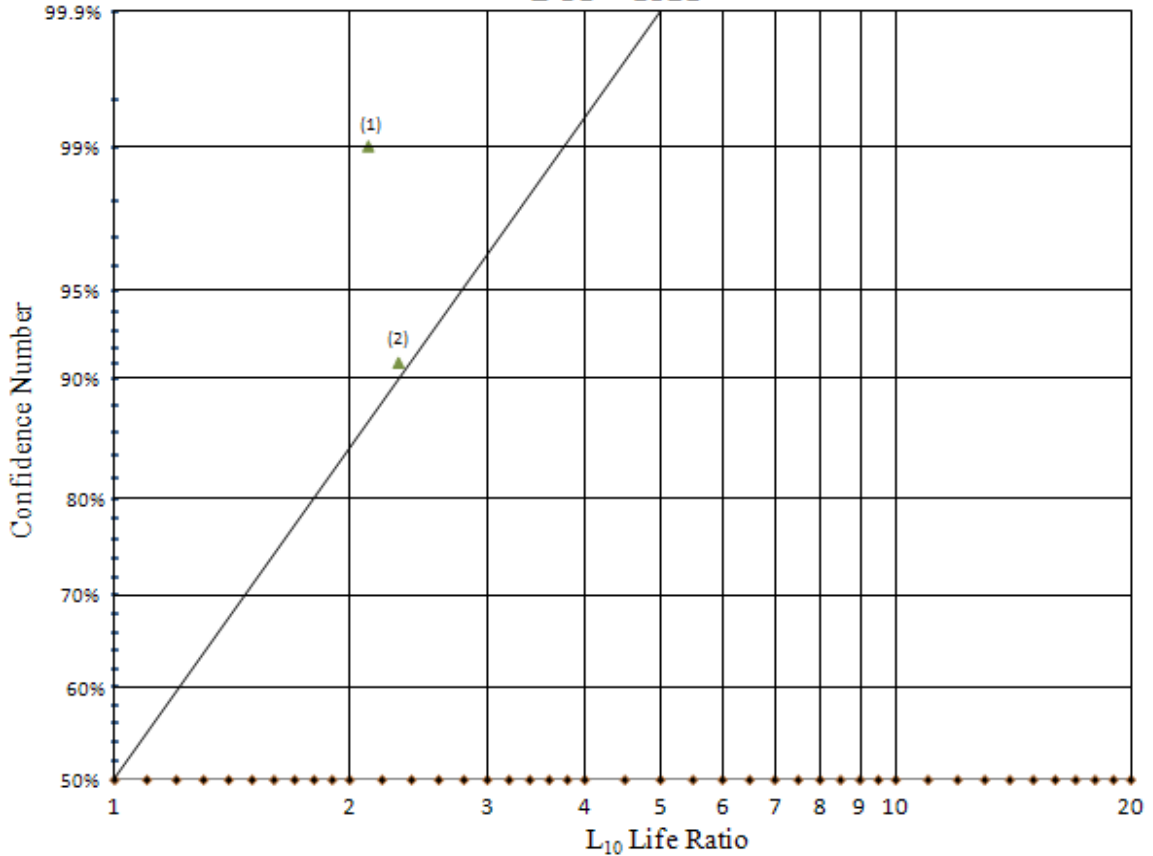


Figure 39: Confidence Number Linear curve fit for TDOF=1521 and average slope  $m=1.38$  using average inputs. Confidence numbers generated by McBride (1) and Parker (2) displayed as data points.

Table 40 contains the coordinates of the data points to which the best fit curve was fitted in Figure 39.

TABLE 40:  $L_{10}$  RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AND DATA POINTS FOR TDOF=1521 AND AVERAGE SLOPE  $M=1.38$

| <b>C/E: <math>m = \text{Avg}(1.66+1.09)</math>; TDOF = 1521</b>       |       |       |                |              |
|---|-------|-------|----------------|--------------|
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| 1.66 Averages   | --    | --    | 5.13           | 100          |
| 1.09 Averages   | --    | --    | 4.84           | 100          |
| <b>Averages</b>   | --    | --    | 4.99           | 100          |
| <b>Simulated <math>L_{10}</math> Ratio &amp; Confidence Number</b>    |       |       |                |              |
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| <b>(1) C/E Averages</b>   | 40    | 40    | 2.11           | 99           |
| <b>Experimental <math>L_{10}</math> Ratio &amp; Confidence Number</b> |       |       |                |              |
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| <b>(2) C/E Averages</b>   | 40    | 40    | 2.31           | 91           |

**Test Lots D & E**  
**Weibull Slope (m) = Avg(1.33+1.09) = 1.21**  
**DOF = 1521**

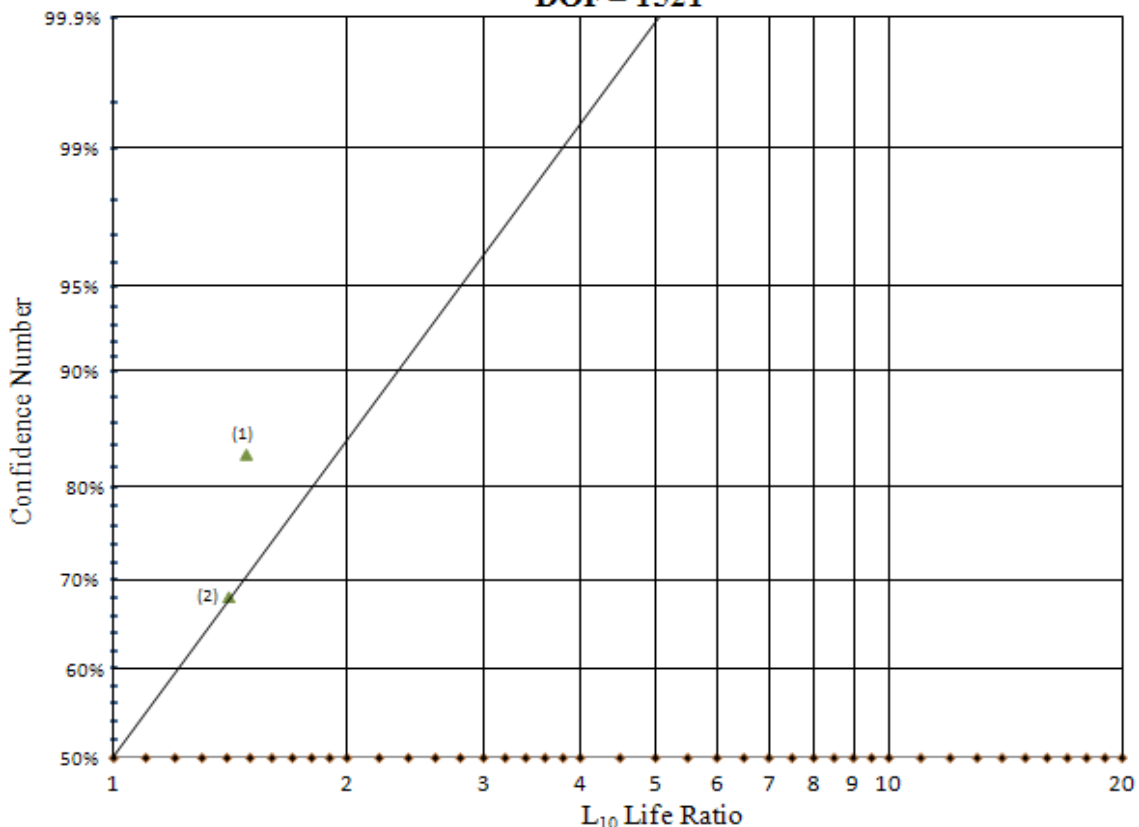


Figure 40: Confidence Number Linear curve fit for TDOF=1521 and average slope  $m=1.21$  using average inputs. Confidence numbers generated by McBride (1) and Parker (2) displayed as data points.

Table 41 contains the coordinates of the data points to which the best fit curve was fitted in Figure 40.

TABLE 41:  $L_{10}$  RATIOS AND CONFIDENCE NUMBERS USED AS COORDINATES TO CREATE CONFIDENCE NUMBER CURVE AND DATA POINTS FOR TDOF=1521 AND AVERAGE SLOPE  $M=1.21$

| <b>D/E: <math>m = \text{Avg}(1.33+1.09)</math>; TDOF = 1521</b>       |       |       |                |              |
|---|-------|-------|----------------|--------------|
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| 1.33 Averages   | --    | --    | 5.13           | 100          |
| 1.09 Averages   | --    | --    | 4.99           | 100          |
| <b>Averages</b>   | --    | --    | 5.06           | 100          |
| <b>Simulated <math>L_{10}</math> Ratio &amp; Confidence Number</b>    |       |       |                |              |
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| <b>(1) D/E Averages</b>   | 40    | 40    | 1.48           | 83           |
| <b>Experimental <math>L_{10}</math> Ratio &amp; Confidence Number</b> |       |       |                |              |
|   | $n_1$ | $n_2$ | $L_{10}$ Ratio | Confidence # |
| <b>(2) D/E Averages</b>   | 40    | 40    | 1.41           | 68           |

After examining figures 35-40 on the previous pages it became clear that taking the average of the two slopes and  $L_{10}$  ratios is not an accurate method to graphically determine the confidence number. So even though the simulations are a viable method to determine confidence numbers it does not appear that graphically determining confidence numbers for two populations with different slopes is accurate at this point.

A final method for comparing the simulated confidence numbers to the experimental was examined that involved averaging the experimental Weibull slopes before the simulation was run. As an example, consider Figure 40 in which Test Lots D & E were compared. For this figure the two Test Lots D and E were both run using their experimentally determined Weibull slopes, 1.33 and 1.09 respectively, to produce the confidence numbers and other calculated values. Then to create the figure the average  $L_{10}$  ratio and confidence number from the two Test Lots were averaged to yield a single point for which the confidence curve was plotted which represented an average slope of 1.21. For this final method the two slopes were averaged before the simulation was run and this average slope was entered for both  $m_1$  and  $m_2$ . The resulting confidence numbers can be seen compared to the experimental number calculated by Zaretsky et al in Table 42.

TABLE 42: COMPARISON OF SIMULATED CONFIDENCE NUMBERS USING AVERAGE WEIBULL SLOPES TO EXPERIMENTALLY DETERMINED VALUES.

| Test Lot | $m_1/m_2$ | Average Slope | Zaretsky Confidence # | McBride Confidence # (Avg) | % Difference |
|----------|-----------|---------------|-----------------------|----------------------------|--------------|
| D/E      | 1.33/1.09 | 1.21          | 68                    | 98                         | 44           |
| C/E      | 1.66/1.09 | 1.38          | 91                    | 68                         | 34           |
| C/D      | 1.66/1.33 | 1.50          | 99                    | 88                         | 13           |
| A/E      | 2.01/1.09 | 1.55          | 63                    | 99                         | 57           |
| A/D      | 2.01/1.33 | 1.67          | 84                    | 72                         | 17           |
| A/C      | 2.01/1.66 | 1.84          | 92                    | 100                        | 9            |

As shown in Table 42 this method of using average Weibull slope values produced confidence numbers that did not compare closely to the experimentally determined values. These results are still noteworthy in that they further illustrate the importance of unique Weibull slopes for each set of data.

### Summary of Results

The results of this work can be summarized as follows:

- (i) A Weibull-based Monte Carlo simulated Visual Basic program was written to simulate large population fatigue failure.
- (ii) Weibull parameters calculated by the VB program were validated through comparison to parameters calculated by a program written by Lewicki and were found to deviate no more than 0.0004 in magnitude.
- (iii) Confidence numbers calculated using the VB program were validated through comparison to confidence numbers calculated using the curve fit equation generated by Vlcek et. al..
- (iv) Simulated confidence numbers were used to create confidence number figures which were compared to figures created by Johnson and found to have a 0.0%-7.4% difference in life ratio at the 90% confidence level.
- (v) Experimental Weibull parameters generated by Parker et. al. were used in Monte Carlo simulation to generate confidence numbers. The confidence numbers were then compared back to Parker et. al.. Five of the 6 combinations simulated

had a percent difference of 1.0%-13% while one of the combinations produced a 22% difference.

(vi)The simulated data using the experimental inputs was then used to create confidence number figures for each combination of Test Lots A, C, D, E.



## CHAPTER 5

### CONCLUSIONS, RECOMMENDATIONS, AND SUMMARY

#### Conclusions

Designing for fatigue is an increasingly accurate practice, but the probabilistic nature of fatigue still limits the level of confidence that can be placed on any life calculation. Due to unavoidable variations in materials and materials processing, fatigue remains a probabilistic property, not deterministic. As a result the best method for determining fatigue life and preventive maintenance scheduling remains a statistical approach that must be based off of large data sets. Due to the infeasibility both in terms of time and capital of physical testing such large data sets, predictive fatigue life models continue to evolve that require limited amounts of data as inputs. One such class of model are Monte Carlo style random models that utilize a probabilistic input, material properties, and a reasonable mathematical model that results in acceptable simulated lives. Typically the results of such models are validated against existing data sets.

The primary goals of this engineering study were to (1) develop a fatigue failure simulation that could be used to provide guidance for preventative maintenance schedules, and (2) to create a method of ranking the relative fatigue lives of data sets being compared.

Weibull's distribution function has been used for decades to analyze small fatigue data sets. As part of this work, a Weibull-based Monte Carlo simulation based upon the "bin-model" Vlcek, Hendricks and Zaretsky (2003) was used to generate nearly 5 billion simulated fatigue lives. These lives were grouped into populations, for which  $L_{10}$  lives were determined (the fatigue life at which 10 percent of the population has failed).  $L_{10}$

lives are an established criteria for establishing warranty limits and preventative maintenance replacement rates.

Next, these  $L_{10}$  lives were grouped into sets of one hundred, from which confidence numbers were determined. A confidence number was defined as the number of times out of one hundred the  $L_{10}$  life of one set of failures, would be greater than a second set if the test or process was repeated. This definition and method was independent of the graphical methods of Leonard Johnson developed in the 1960s. Johnson's method for obtaining confidence numbers has an unavoidable level of error due to the graphical nature by which the confidence numbers are determined. Another limiting factor is that figures were only published for a small number of Weibull slopes (1.0, 1.2, 1.4, 1.6, 1.8, and 2.0) and total degrees of freedom (12, 24, 48, 96, 400, and 3000). If the Weibull parameters of the data sets being compared did not fall on one of the specified slopes or degrees of freedom it then became necessary to graphically interpolate between curves on a figure and between figures. The Weibull-based Monte Carlo Confidence Number methodology developed as part of this work eliminates the need for graphical interpolation or any dependence upon the Figures of Leonard Johnson.

Milestones in this engineering study included:

- (1) Developing an understanding of Weibull analysis to include the wide applicability of the two parameter mathematical model and more specifically how it can be used in prediction of fatigue life.
- (2) Learning how to program macros in Visual Basic to successfully interface with Excel in order to create a user friendly fatigue life simulation model.

- (3) Flow charting the logic of a program to (i) generate  $L_{10}$  fatigue lives and (ii) create confidence numbers
- (4) Developing an understanding of the Monte Carlo model for use in random number simulation.
- (5) Writing a macro to simulate fatigue lives and validate the output of the model
- (6) Establishing the number of trials required for an acceptable level of statistical significance in a simulated data set.
- (7) Becoming familiar with Confidence numbers and how they relate to preventive maintenance practices.
- (8) Generating up to and beyond 100,000,000 fatigue lives, 10,000,000  $L_{10}$  lives, and 1,000,000 confidence numbers for multiple sets of Weibull parameters.
- (9) Creating Confidence number figures from Visual Basic program outputs independent of those created by Leonard Johnson.
- (10) Comparing simulated confidence number curves to those created Johnsons with reasonable agreement at the 90% survival level.
- (11) Comparing confidence numbers simulated using experimental Weibull parameters to experimentally determined confidence numbers with reasonable agreement

Initially, the simulation was run at slopes and degrees of freedom that could be compared back to Johnson's work for validation purposes. When confidence curves generated using the Monte Carlo based simulation were overlaid on those published by Johnson (Figure 27) it became clear that the results were indeed comparable to those published by Johnson. Fatigue Life  $L_{10}$  Ratios at the 90% survivability level, as shown in Table 43, had only a 0% -7.4% difference from those published by Johnson.

TABLE 43:  $L_{10}$  RATIOS AND CONFIDENCE NUMBER VALUES USED TO PLOT CONFIDENCE NUMBER CURVES AT  $M=1.8$  AND INDICATED TDOF AS GENERATED BY MCBRIDE AND JOHNSON

|   | DOF | McBride        |              | Johnson        |              | % Difference in $L_{10}R$ |        |
|---|-----|----------------|--------------|----------------|--------------|---------------------------|--------|
|   |     | $L_{10}$ Ratio | Confidence # | $L_{10}$ Ratio | Confidence # | Confidence #              | % Diff |
| 1 | 96  | 2.60           | 90           | 2.42           | 90           | 90                        | 7.4    |
| 2 | 48  | 3.01           | 90           | 2.96           | 90           | 90                        | 1.7    |
| 3 | 24  | 3.23           | 90           | 3.23           | 90           | 90                        | 0.0    |
| 4 | 12  | 4.02           | 90           | 3.82           | 90           | 90                        | 5.2    |

The next method of validation came from comparing simulated confidence numbers to a set of numbers that were determined experimentally. In a work by Parker et. al. they carried out experimental fatigue testing on ball bearings using a five-ball fatigue test apparatus. In his findings he reported the  $L_{10}$  life and experimental confidence number of 4 different sets of ball bearings. The parameters of each of these test lots were used as inputs to the Monte Carlo simulation and run for a total of 10,000 cycles each. The resulting confidence numbers were then compared back to the experimental data. The simulated numbers compared well with error for 4 of the six combinations resulting in a percent difference of 9% or less. For one of the test pairs, however, a percent difference of 22% reported. The simulation was repeated an additional 10,000 times and the same results were obtained.

In an attempt to reduce this percent difference, a modification of the model was investigated. Simulations were run for each slope and degree of freedom used in the physical testing with input parameters set in such a way to result in statistically different values between the two sample sizes. These results were used to plot confidence curves for each test lot. A final confidence curve was created by averaging between the two figures that corresponded to the two slopes being compared. However, when the

simulated confidence number was plotted on this curve it did not fall on the confidence curve line for any of the pairs of data.

#### Recommendations for Future Work

The variability in  $L_{10}$  life with sample population size has been documented in Vlcek, Hendricks and Zaretsky (Vlcek, 2003) and Vlcek, Murray, McBride and Hendricks (Vlcek, 2010). As the population size from which the fatigue life is determined gets larger, the variability in fatigue life decreases. It is likely that confidence numbers generated for TDOFs with small  $n$  values making up the TDOF are less accurate than those generate with two mid-sized  $n$  values. A future point of study would be to go back and use the results only for the mid-sized populations combined to form TDOFs and see how these compare to Johnson's Figures.

While this study produced results that were shown to be accurate and repeatable, there still remains steps that can be taken to establish further certainty in the process developed herein. While one of the confidence number figures created by Johnson was successfully recreated it would be useful to run simulation at all the combinations of Weibull slopes and total degrees of freedom that Johnson did. If the remainder of these figures were generated and found to compare favorably to those published by Johnson it would both (1) increase reliability in the method developed in this work and (2) further decrease dependence on Johnson's work. A second step that could be carried out to further validate this process would be to generate a large unique experimental population of fatigue data that could be used as inputs for the program. An effort could also be made to determine how small of an experimental population can be used to generate reliable fatigue life data through this process. By first carrying out simulations for a statistically

large population of experimental data and generating confidence number curves with this data the user could then decrease the population size for subsequent simulations until it was felt that the results began to deviate to the point where they were no longer reliable.

Finally, the Weibull-based Monte Carlo simulation of confidence numbers generates accurate confidence numbers without the reliance on Johnson's original theory or graphical interpolation. This methodology could be packaged as a reasonable method of generating confidence numbers.

### Summary

Probabilistic trends were observed in large populations of Monte Carlo simulated fatigue data in order to generate confidence number figures. The obstacle of generating large experimental fatigue populations was overcome using a Weibull-based Visual Basic program to calculate fatigue lives. These fatigue lives were used to generate  $L_{10}$  lives. A model of confidence number was developed dependent upon these statistically large samples of simulated  $L_{10}$  fatigue lives, and independent of a limited number of published curves. Using these simulated values, Confidence number figures were generated that deviated from 0.0% - 7.4% of previously published figures and were independent of confidence bands. Results generated using experimental inputs differed as little as 1% from those determined graphically while graphical interpolation was eliminated.

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## APPENDIX A

### COMPLETE VISUAL BASIC PROGRAM

This appendix contains the entire Visual Basic program that was written to run the simulations for this work. Any statement that begins with an apostrophe (‘) is a comment statement that is meant only as a note to the user and does not affect the running of the program.

```
Sub Weibull_Sim()
'
' Weibull_Sim Macro
'
' Keyboard Shortcut: Ctrl+w
'

'Below commands assign variables for calculations and indexing
noru = Cells(1, 2)    'NoRu is the number of runs
n1 = Cells(2, 2)     'sample size for 1st set
n2 = Cells(3, 2)     'sample size for 2nd set
ntotal = Cells(4, 2) 'Total pop size
mslope = Cells(5, 2) 'weibul slope 1
mslope2 = Cells(6, 2) 'weibull slope 2
LB1 = Cells(7, 2)    'characteristic life for 1st set
LB2 = Cells(8, 2)    'characteristic life for 2nd set
confpop = Cells(9, 2) 'Nummber of confidence numbers to be solved for
confh = 1            'indexes horizontally on weibull sheet
confhLm = 1         'indexes horizontally on weibull sheet for Lmean
num1 = 1
num2 = 1

horiz = 5           'index to control number column
srun = 6            'index variable
W1 = 2             'index variable
W1h = 1            'index variable
arcpv = 4          'define horizontal position of cells on archive sheet
arcph = 4          'define vertical position of cells on archive sheet
rndarcv1 = 3       'index variable
rndarcv2 = 3       'index variable
avh = 2            'index horizontally to calculate averages on weibull sheet
avv = 5            'index vertically on export sheet
avve = 5           'index vertically on export sheet for L10 confidence numbers
avveLm = 5        'index vertically on export sheet for Lmean confidence numbers

horiz2 = 7 'index variable
srun2 = 6 'index variable
```

```
Application.ScreenUpdating = False 'Prevents screen from updating until macro is complete to conserve memory
```

```
'Begin loop to generate population of confidence numbers  
For connum = 1 To confpop
```

```
'Begin loop to generate 1 confidence number  
For confl = 1 To noru
```

```
'Begin loop for first pop size
```

```
'Loop inserts control column for 1st set  
For Counter = 1 To n1  
    Cells(Counter + 5, horiz).Value = Counter  
Next Counter
```

```
'Loop generates random numbers  
Dim x As Long, y As Long, z As Long, tempnum As Long  
Dim flag As Boolean  
Dim i As Integer  
Dim foundCell As Range  
x = 1  
y = 1000  
z = n1
```

```
Randomize  
Cells(6, 6) = Int((y - x + 1) * Rnd + x)  
For i = 6 To z + 5  
    Do  
        flag = False  
        Randomize  
        tempnum = Int((y - x + 1) * Rnd + x)  
        Set foundCell = Range("f6", _  
            Range("f6").End(xlDown).Address).Find(tempnum)  
        If Not (foundCell Is Nothing) Then  
            flag = True  
        End If  
    Loop Until Not flag  
    Cells(i, 6) = tempnum  
Next
```

```
'Sorts random #'s from smallest to largest  
Range(Cells(5, 6), Cells(n1 + 5, 6)).Select ' put the range here  
Selection.sort Key1:=Range("F5"), Order1:=xlAscending, Header:=xlGuess, _  
OrderCustom:=1, MatchCase:=False, Orientation:=xlTopToBottom
```

```

'Loop copies random numbers to archive sheet
For rndarc1 = 1 To n1
    coprnd = Cells(rndarc1 + 5, 6)
    Worksheets("archive").Cells(rndarc1 + rndarcv1, arcph) = coprnd
    Worksheets("generate").Activate
Next rndarc1

arcpv1 = arcpv

'Loop solves for median rank, lnln(1/s), Ls, and ln(Ls) for 1st set
For fstrun = 1 To n1

    medran = ((Cells(srun, horiz + 1) - 0.3) / (ntotal + 0.4))
    Cells(srun, horiz + 2) = medran

'Calculate MR for the plot
    medranp = ((Cells(srun, horiz) - 0.3) / (n1 + 0.4))
    Cells(srun, horiz + 6) = medranp

    life = 1 / (1 - Cells(srun, horiz + 2))
    Llife = Application.WorksheetFunction.Ln(life)
    Lllife = Application.WorksheetFunction.Ln(Llife)
    Cells(srun, horiz + 4) = Lllife

'Calculate lnln(1/S) for the plot
    lifep = 1 / (1 - Cells(srun, horiz + 6))
    Llifep = Application.WorksheetFunction.Ln(lifep)
    Lllifep = Application.WorksheetFunction.Ln(Llifep)
    Cells(srun, horiz + 7) = Lllifep

    LLverm = Cells(srun, horiz + 4) / mslope
    ELLverm = Exp(LLverm)
    Ls = LB1 * ELLverm
    Cells(srun, horiz + 3) = Ls

    logLs = Application.WorksheetFunction.Ln(Ls)
    Cells(srun, horiz + 5) = logLs

    srun = srun + 1

'Copy data to archive sheet
    Worksheets("archive").Cells(arcpv1, arcph + 1) = medran
    Worksheets("archive").Cells(arcpv1, arcph + 2) = Ls

    arcpv1 = arcpv1 + 1

Next fstrun

'End of generation for first population

```

'Calculate Weibull Values

```
S2 = Application.WorksheetFunction.LinEst(Range(Cells(6, 12), Cells(n1 + 5, 12)), Range(Cells(6, 10),  
Cells(n1 + 5, 10)), True, True)  
ActiveSheet.Cells(3, 6) = S2
```

```
I2 = Application.WorksheetFunction.Intercept(Range(Cells(6, 12), Cells(n1 + 5, 12)), Range(Cells(6, 10),  
Cells(n1 + 5, 10)))  
ActiveSheet.Cells(3, 7) = I2
```

```
slp = ActiveSheet.Cells(3, 6)  
yint = ActiveSheet.Cells(3, 7)
```

```
div1 = (yint / slp)  
div11 = -1 * div1  
div111 = Exp(div11)
```

```
L10 = Exp(-2.25037 / slp) * div111  
ActiveSheet.Cells(3, 8) = L10
```

```
percentFail = 62.1 * (slp ^ -0.172) 'RCH Curve Fit of Johnson Curve
```

```
lmean11 = 1 / (1 - (percentFail / 100))  
lmean21 = Application.WorksheetFunction.Ln(lmean11)  
lmean31 = Application.WorksheetFunction.Ln(lmean21)  
Lmean1 = (Exp(lmean31 / slp)) * div111  
ActiveSheet.Cells(3, 9) = Lmean1
```

```
Worksheets("weibull").Cells(W1, W1h + 1) = L10  
Worksheets("weibull").Cells(W1, W1h + 3) = S2  
Worksheets("weibull").Cells(W1, W1h + 5) = Lmean1
```

```
Worksheets("archive").Cells(arcpv - 2, arcph) = L10  
Worksheets("archive").Cells(arcpv - 2, arcph + 1) = S2  
Worksheets("archive").Cells(arcpv - 2, arcph + 2) = Lmean1
```

```
Worksheets("generate").Activate
```

'Begin loop for second population size

```
'Loop generates control column for 2nd set  
For Counter = 1 To n2  
    Cells(Counter + 5, horiz2 + 7).Value = Counter  
Next Counter
```

'Loop generates list of random numbers

```
Dim x2 As Long, y2 As Long, z2 As Long, tempnum2 As Long
```

```
Dim flag2 As Boolean
```

```
Dim ii As Integer
```

```
Dim foundCell2 As Range
```

```
x2 = 1
```

```
y2 = 1000
```

```
z2 = n2
```

```
Randomize
```

```
Cells(6, 15) = Int((y2 - x2 + 1) * Rnd + x2)
```

```
For ii = 6 To z2 + 5
```

```
Do
```

```
flag2 = False
```

```
Randomize
```

```
tempnum2 = Int((y2 - x2 + 1) * Rnd + x2)
```

```
Set foundCell2 = Range("O6", _  
Range("O6").End(xlDown).Address).Find(tempnum2)
```

```
If Not (foundCell2 Is Nothing) Then
```

```
flag2 = True
```

```
End If
```

```
Loop Until Not flag2
```

```
Cells(ii, 15) = tempnum2
```

```
Next
```

'Sorts random #'s from smallest to largest

```
Range(Cells(5, 15), Cells(n2 + 5, 15)).Select ' put the range here
```

```
Selection.sort Key1:=Range("O5"), Order1:=xlAscending, Header:=xlGuess, _  
OrderCustom:=1, MatchCase:=False, Orientation:=xlTopToBottom
```

'Loop copies random numbers to archive sheet

```
For rndarc2 = 1 To n2
```

```
coprnd = Cells(rndarc2 + 5, 15)
```

```
Worksheets("archive").Cells(rndarc2 + rndarcv2, arcpv + 3) = coprnd
```

```
Worksheets("generate").Activate
```

```
Next rndarc2
```

```
arcpv2 = arcpv
```

'Loop solves for median rank,  $\ln(1/s)$ ,  $Ls$ , and  $\ln(Ls)$  for 1st set

```
For scndrun = 1 To n2
```

```
medran2 = ((Cells(srun2, horiz2 + 8) - 0.3) / (ntotal + 0.4))
```

```
Cells(srun2, horiz2 + 9) = medran2
```

'Calculates MR for plot

```
medran2p = ((Cells(srun2, horiz2 + 7) - 0.3) / (n2 + 0.4))
```

```
Cells(srun2, horiz2 + 13) = medran2p
```

```
life2 = 1 / (1 - Cells(srun2, horiz2 + 9))
```

```
Llife2 = Application.WorksheetFunction.Ln(life2)
```

```
LLlife2 = Application.WorksheetFunction.Ln(Llife2)
```

Cells(srun2, horiz2 + 11) = LLlife2

'Calculates  $\ln(1/S)$  for the plot

life2p = 1 / (1 - Cells(srun2, horiz2 + 13))

Llife2p = Application.WorksheetFunction.Ln(life2p)

LLlife2p = Application.WorksheetFunction.Ln(Llife2p)

Cells(srun2, horiz2 + 14) = LLlife2p

LLverm2 = Cells(srun2, horiz2 + 11) / mslope2

ELLverm2 = Exp(LLverm2)

Ls2 = LB2 \* ELLverm2

Cells(srun2, horiz2 + 10) = Ls2

loLs2 = Application.WorksheetFunction.Ln(Ls2)

Cells(srun2, horiz2 + 12) = loLs2

srun2 = srun2 + 1

'Copy data to archive sheet

Worksheets("archive").Cells(arcpv2, arcph + 4) = medran2

Worksheets("archive").Cells(arcpv2, arcph + 5) = Ls2

arcpv2 = arcpv2 + 1

Next scndrun

'Calculate Weibull Values

S22 = Application.WorksheetFunction.LinEst(Range(Cells(6, 21), Cells(n2 + 5, 21)), Range(Cells(6, 19), Cells(n2 + 5, 19)), True, True)

ActiveSheet.Cells(3, 15) = S22

I22 = Application.WorksheetFunction.Intercept(Range(Cells(6, 21), Cells(n2 + 5, 21)), Range(Cells(6, 19), Cells(n2 + 5, 19)))

ActiveSheet.Cells(3, 16) = I22

slp2 = ActiveSheet.Cells(3, 15)

yint2 = ActiveSheet.Cells(3, 16)

div2 = (yint2 / slp2)

div22 = -1 \* div2

div222 = Exp(div22)

L102 = Exp(-2.25037 / slp2) \* div222

ActiveSheet.Cells(3, 17) = L102

percentFail = 62.1 \* (slp2 ^ -0.172) 'RCH Curve Fit of Johnson Curve

lmean12 = 1 / (1 - (percentFail / 100))

lmean22 = Application.WorksheetFunction.Ln(lmean12)

lmean32 = Application.WorksheetFunction.Ln(lmean22)

```
Lmean2 = (Exp(lmean32 / slp2)) * div222
ActiveSheet.Cells(3, 18) = Lmean2
```

```
Worksheets("weibull").Cells(W1, W1h + 2) = L102
Worksheets("weibull").Cells(W1, W1h + 4) = S22
Worksheets("weibull").Cells(W1, W1h + 6) = Lmean2
```

```
Worksheets("archive").Cells(arcpv - 2, arcph + 3) = L102
Worksheets("archive").Cells(arcpv - 2, arcph + 4) = S22
Worksheets("archive").Cells(arcpv - 2, arcph + 5) = Lmean2
```

```
Worksheets("generate").Activate
```

```
'Reset variables for next run
```

```
srun = 6
srun2 = 6
```

```
W1 = W1 + 1
```

```
arcph = arcph + 7
```

```
Range(Cells(6, 6), Cells(n1 + 5, 6)).Select
Selection.ClearContents
Range(Cells(6, 15), Cells(n2 + 5, 15)).Select
Selection.ClearContents
```

```
Next conf1
```

```
'Below calculatles average L10's and slopes for each set of 100
```

```
Worksheets("weibull").Select
avL101 = Application.WorksheetFunction.Average(Range(Cells(2, avh), Cells(101, avh)))
ActiveSheet.Cells(103, avh) = avL101
avL102 = Application.WorksheetFunction.Average(Range(Cells(2, avh + 1), Cells(101, avh + 1)))
ActiveSheet.Cells(103, avh + 1) = avL102
avS1 = Application.WorksheetFunction.Average(Range(Cells(2, avh + 2), Cells(101, avh + 2)))
ActiveSheet.Cells(103, avh + 2) = avS1
avS2 = Application.WorksheetFunction.Average(Range(Cells(2, avh + 3), Cells(101, avh + 3)))
ActiveSheet.Cells(103, avh + 3) = avS2
avLm1 = Application.WorksheetFunction.Average(Range(Cells(2, avh + 4), Cells(101, avh + 4)))
ActiveSheet.Cells(103, avh + 4) = avLm1
avLm2 = Application.WorksheetFunction.Average(Range(Cells(2, avh + 5), Cells(101, avh + 5)))
ActiveSheet.Cells(103, avh + 5) = avLm2
```

```
Worksheets("export").Cells(avv, 5) = avL101
Worksheets("export").Cells(avv, 6) = avL102
```



```
Worksheets("export").Cells(avv, 7) = avS1
Worksheets("export").Cells(avv, 8) = avS2
Worksheets("export").Cells(avv, 9) = avLm1
Worksheets("export").Cells(avv, 10) = avLm2
```

```
Worksheets("generate").Select
Range(Cells(1, 1), Cells(8, 2)).Select
Selection.Copy
Sheets("archive").Select
Cells(rndarcv1 + 1, 1).Select
ActiveSheet.Paste
Worksheets("generate").Select
```

'The below lines marked with (\*\*) should be set to 3+ the largest population size for correct indexing

```
arcpv = arcpv + 43 'index archive of MR and L down for next loop**
arcpv = 4 'reset archive of MR and L to column 1
W1 = 2 'reset list of L10 and slope to row 2
W1h = W1h + 7 'index list of L10 and slope over to right
rndarcv1 = rndarcv1 + 43 'index archive on random numbers down**
rndarcv2 = rndarcv2 + 43 'index archive of random numbers down**
avh = avh + 7
avv = avv + 1
```

Next connum

'Get confidence number from previous run using L10

```
Worksheets("weibull").Activate
```

```
For confnm = 1 To confpop
```

```
cnt1 = 0 'begins summing the number of runs that are bigger at 0
cnt2 = 0
```

```
For conpop = 1 To noru
```

```
If Cells(conpop + 1, confh + 1) > Cells(conpop + 1, confh + 2) Then cnt1 = cnt1 + 1
```

```
If Cells(conpop + 1, confh + 2) > Cells(conpop + 1, confh + 1) Then cnt2 = cnt2 + 1
```

```
Next conpop
```

```
If cnt1 > cnt2 Then Cells(noru + 2, confh + 1) = cnt1
```

```
If cnt2 > cnt1 Then Cells(noru + 2, confh + 2) = cnt2
```

```
Range(Cells(102, confh + 1), Cells(102, confh + 2)).Select
```

```
Selection.Copy
```

```
Sheets("export").Select
```

```
Cells(avve, 3).Select
```

```
Selection.PasteSpecial Paste:=xlPasteValues, Operation:=xlNone, SkipBlanks _
```

```
:=False, Transpose:=False
```

```
Worksheets("weibull").Activate
```

```
confh = confh + 7  
avve = avve + 1
```

```
Next confnum
```

```
'Get confidence number from previous run using Lmean  
Worksheets("weibull").Activate
```

```
For confnumLm = 1 To confpop
```

```
cnt1Lm = 0 'begins summing the number of runs that are bigger at 0  
cnt2Lm = 0
```

```
For conpopLm = 1 To noru
```

```
If Cells(conpopLm + 1, confhLm + 5) > Cells(conpopLm + 1, confhLm + 6) Then cnt1Lm = cnt1Lm + 1
```

```
If Cells(conpopLm + 1, confhLm + 6) > Cells(conpopLm + 1, confhLm + 5) Then cnt2Lm = cnt2Lm + 1
```

```
Next conpopLm
```

```
If cnt1Lm > cnt2Lm Then Cells(noru + 2, confhLm + 5) = cnt1Lm
```

```
If cnt2Lm > cnt1Lm Then Cells(noru + 2, confhLm + 6) = cnt2Lm
```

```
Range(Cells(102, confhLm + 5), Cells(102, confhLm + 6)).Select
```

```
Selection.Copy
```

```
Sheets("export").Select
```

```
Cells(avveLm, 11).Select
```

```
Selection.PasteSpecial Paste:=xlPasteValues, Operation:=xlNone, SkipBlanks _  
:=False, Transpose:=False
```

```
Worksheets("weibull").Activate
```

```
confhLm = confhLm + 7  
avveLm = avveLm + 1
```

```
Next confnumLm
```

```
'Below commands save workbook, minimize Excel, and close workbook if activated
```

```
'ActiveWorkbook.Save
```

```
'Application.WindowState = xlMinimized
```

```
'ActiveWorkbook.Close
```

```
End Sub
```

## APPENDIX B

### SAMPLE OF SIMULATION ARCHIVE DATA

As the macro was run for each set of random numbers it was necessary for verification purposes to save some of the calculated values. This appendix contains a sample of what was archived for the calculation of one  $L_{10}$  life for  $n_1$  and  $n_2$ . The VB program commands and Weibull parameters are displayed on the left and the random numbers, median ranks, and lives calculated for each random number for  $n_1$  and  $n_2$  are on the right. Also on the right are the average values for this set of random numbers which were then copied to the sheet in which the confidence numbers were calculated (an example of this sheet can be seen in Appendix C).

|           |       | $L_{10,1}$ | Slope-1 | Lmean1 | $L_{10,2}$ | Slope-2 | Lmean2 |
|-----------|-------|------------|---------|--------|------------|---------|--------|
|           |       | 1531       | 1.02    | 13355  | 6606       | 1.44    | 28709  |
|           |       | Rnd# (j)   | MR      | Ls     | Rnd# (j)   | MR      | Ls     |
| # of runs | 100   | 11         | 0.0107  | 806    | 13         | 0.0127  | 3549   |
| $n_1$     | 9     | 513        | 0.5125  | 8322   | 77         | 0.0767  | 9817   |
| $n_2$     | 13    | 545        | 0.5445  | 8750   | 94         | 0.0937  | 11027  |
| ntotal    | 1000  | 673        | 0.6724  | 10629  | 156        | 0.1556  | 14906  |
| $m_1$     | 1.8   | 680        | 0.6794  | 10743  | 258        | 0.2576  | 20410  |
| $m_2$     | 1.8   | 723        | 0.7224  | 11478  | 348        | 0.3476  | 24932  |
| $L_{B,1}$ | 10000 | 734        | 0.7334  | 11678  | 369        | 0.3686  | 25976  |
| $L_{B,2}$ | 40000 | 812        | 0.8114  | 13287  | 376        | 0.3755  | 26324  |
|           |       | 908        | 0.9073  | 16184  | 423        | 0.4225  | 28670  |
|           |       |            |         |        | 425        | 0.4245  | 28770  |
|           |       |            |         |        | 654        | 0.6534  | 41309  |
|           |       |            |         |        | 852        | 0.8514  | 57242  |
|           |       |            |         |        | 899        | 0.8983  | 63323  |

## APPENDIX C

### SAMPLE OF CONFIDENCE NUMBER CALCUALTION SHEET

Once the L10, slope, and Lmean were calculated for a set of random number corresponding to n1 and n2 they were copied to a sheet in which the confidence numbers were calculated. A sample of these values for 100 L10, slope, and Lmean values and the corresponding calculated confidence numbers and average values is shown here. Once all 10,000 L10 lives were calculated all of these confidence numbers and average values were copied to a final sheet from in which the overall averages were calculated for that that set of Weibull parameters (A sample of this sheet can be seen in Appendix F).

|    | <b>L<sub>10-1</sub></b> | <b>L<sub>10-2</sub></b> | <b>Slope-1</b> | <b>Slope-2</b> | <b>Lmean1</b> | <b>Lmean2</b> |
|----|-------------------------|-------------------------|----------------|----------------|---------------|---------------|
| 1  | 1531                    | 6606                    | 1.02           | 1.44           | 13355         | 28709         |
| 2  | 4548                    | 6312                    | 2.55           | 1.23           | 9831          | 36798         |
| 3  | 2669                    | 11043                   | 2.05           | 1.71           | 7144          | 37065         |
| 4  | 1920                    | 10437                   | 1.39           | 1.55           | 8836          | 40551         |
| 5  | 1738                    | 17389                   | 1.60           | 2.38           | 6395          | 39959         |
| 6  | 2933                    | 14468                   | 1.87           | 2.37           | 8739          | 33369         |
| 7  | 2050                    | 4395                    | 1.24           | 1.11           | 11706         | 31412         |
| 8  | 1733                    | 9727                    | 1.47           | 2.12           | 7275          | 25156         |
| 9  | 774                     | 6200                    | 1.06           | 1.29           | 6229          | 32545         |
| 10 | 3816                    | 7711                    | 2.37           | 1.22           | 8833          | 45315         |
| 11 | 1608                    | 8026                    | 1.26           | 1.65           | 8875          | 28263         |
| 12 | 1564                    | 17522                   | 1.11           | 2.17           | 11188         | 44229         |
| 13 | 2213                    | 12365                   | 1.78           | 2.41           | 7065          | 28155         |
| 14 | 1830                    | 8801                    | 1.49           | 1.48           | 7532          | 36533         |
| 15 | 4415                    | 22036                   | 2.21           | 2.24           | 10941         | 53841         |
| 16 | 3745                    | 6103                    | 2.44           | 1.35           | 8429          | 29847         |
| 17 | 570                     | 15083                   | 0.91           | 1.84           | 6669          | 45848         |
| 18 | 3692                    | 13652                   | 1.59           | 2.16           | 13714         | 34620         |
| 19 | 3580                    | 12677                   | 1.68           | 1.77           | 12346         | 40517         |

|    | <b>L<sub>10-1</sub></b> | <b>L<sub>10-2</sub></b> | <b>Slope-1</b> | <b>Slope-2</b> | <b>Lmean1</b> | <b>Lmean2</b> |
|----|-------------------------|-------------------------|----------------|----------------|---------------|---------------|
| 20 | 5166                    | 10579                   | 2.69           | 1.82           | 10672         | 32615         |
| 21 | 2116                    | 6639                    | 1.52           | 1.34           | 8482          | 32531         |
| 22 | 1403                    | 12935                   | 1.15           | 2.25           | 9404          | 31485         |
| 23 | 1070                    | 10049                   | 1.00           | 1.57           | 9871          | 37995         |
| 24 | 2364                    | 11452                   | 1.47           | 1.48           | 9983          | 47561         |
| 25 | 5265                    | 15524                   | 2.50           | 2.33           | 11573         | 36406         |
| 26 | 3146                    | 14007                   | 1.93           | 2.11           | 9061          | 36377         |
| 27 | 1992                    | 10990                   | 1.40           | 1.51           | 9143          | 44409         |
| 28 | 4445                    | 8439                    | 2.32           | 1.36           | 10488         | 40314         |
| 29 | 2600                    | 5597                    | 1.71           | 1.09           | 8723          | 42019         |
| 30 | 5663                    | 9086                    | 3.39           | 1.55           | 9895          | 35085         |
| 31 | 3911                    | 18613                   | 2.39           | 2.65           | 8979          | 38920         |
| 32 | 1621                    | 7627                    | 1.38           | 1.25           | 7564          | 42578         |
| 33 | 2485                    | 7446                    | 1.85           | 1.39           | 7540          | 34341         |
| 34 | 4176                    | 5830                    | 2.69           | 1.16           | 8633          | 38149         |
| 35 | 1426                    | 14633                   | 1.22           | 2.25           | 8465          | 35603         |
| 36 | 3250                    | 12448                   | 1.82           | 1.98           | 10012         | 34676         |
| 37 | 2476                    | 13802                   | 1.34           | 2.21           | 12197         | 34078         |
| 38 | 4823                    | 20237                   | 2.66           | 2.36           | 10045         | 46957         |
| 39 | 1924                    | 6489                    | 1.41           | 1.16           | 8656          | 42422         |
| 40 | 4284                    | 10562                   | 2.06           | 1.56           | 11431         | 40611         |
| 41 | 4735                    | 5463                    | 2.61           | 1.26           | 10038         | 30341         |
| 42 | 1846                    | 18406                   | 1.47           | 2.58           | 7771          | 39395         |
| 43 | 4472                    | 10007                   | 2.76           | 1.74           | 9040          | 32864         |
| 44 | 2945                    | 15830                   | 2.20           | 2.18           | 7317          | 39817         |
| 45 | 5577                    | 8301                    | 3.70           | 1.58           | 9251          | 31190         |
| 46 | 2846                    | 10493                   | 1.59           | 1.56           | 10622         | 40163         |
| 47 | 2659                    | 5114                    | 1.70           | 1.16           | 8997          | 33662         |
| 48 | 1667                    | 13551                   | 1.41           | 2.13           | 7499          | 34798         |
| 49 | 2984                    | 7313                    | 1.87           | 1.50           | 8894          | 29817         |
| 50 | 1706                    | 24367                   | 1.51           | 3.87           | 6846          | 39439         |
| 51 | 3893                    | 12906                   | 2.49           | 1.90           | 8597          | 37811         |
| 52 | 1879                    | 11072                   | 1.29           | 1.64           | 9938          | 39297         |
| 53 | 2764                    | 14576                   | 1.94           | 2.21           | 7882          | 36027         |
| 54 | 1857                    | 5483                    | 1.43           | 1.13           | 8191          | 38037         |
| 55 | 4736                    | 10104                   | 3.01           | 1.43           | 8978          | 44689         |
| 56 | 2288                    | 13560                   | 1.61           | 1.81           | 8366          | 42200         |
| 57 | 3764                    | 6795                    | 2.33           | 1.41           | 8837          | 30634         |
| 58 | 1382                    | 9494                    | 1.24           | 1.85           | 7922          | 28736         |

|    | <b>L<sub>10-1</sub></b> | <b>L<sub>10-2</sub></b> | <b>Slope-1</b> | <b>Slope-2</b> | <b>Lmean1</b> | <b>Lmean2</b> |
|----|-------------------------|-------------------------|----------------|----------------|---------------|---------------|
| 59 | 2757                    | 8670                    | 1.78           | 1.67           | 8781          | 30001         |
| 60 | 6075                    | 11630                   | 3.55           | 1.64           | 10329         | 41497         |
| 61 | 3060                    | 7326                    | 2.80           | 1.34           | 6117          | 36314         |
| 62 | 1155                    | 9746                    | 1.16           | 1.62           | 7563          | 35226         |
| 63 | 2135                    | 8305                    | 1.27           | 1.64           | 11678         | 29529         |
| 64 | 1750                    | 11777                   | 1.60           | 1.60           | 6431          | 43255         |
| 65 | 3699                    | 7858                    | 2.79           | 1.30           | 7415          | 40744         |
| 66 | 3289                    | 9146                    | 1.81           | 1.86           | 10251         | 27450         |
| 67 | 3310                    | 14112                   | 1.84           | 2.24           | 10086         | 34411         |
| 68 | 2485                    | 18872                   | 1.40           | 2.47           | 11275         | 41985         |
| 69 | 1409                    | 4500                    | 1.38           | 1.33           | 6595          | 22392         |
| 70 | 3508                    | 6204                    | 1.75           | 1.21           | 11381         | 37413         |
| 71 | 2584                    | 7356                    | 1.77           | 1.56           | 8260          | 28190         |
| 72 | 1321                    | 9894                    | 1.09           | 1.41           | 9804          | 44562         |
| 73 | 4499                    | 18712                   | 2.95           | 2.57           | 8658          | 40171         |
| 74 | 2676                    | 7549                    | 1.96           | 1.34           | 7553          | 37155         |
| 75 | 1244                    | 8854                    | 1.03           | 1.54           | 10704         | 34765         |
| 76 | 4065                    | 16409                   | 1.92           | 2.47           | 11760         | 36525         |
| 77 | 1473                    | 4195                    | 1.14           | 0.91           | 10053         | 49394         |
| 78 | 2841                    | 8220                    | 2.22           | 1.38           | 7015          | 38606         |
| 79 | 3400                    | 16087                   | 1.79           | 2.13           | 10730         | 41389         |
| 80 | 5105                    | 8770                    | 2.66           | 1.51           | 10630         | 35391         |
| 81 | 1190                    | 15654                   | 0.98           | 2.36           | 11525         | 36284         |
| 82 | 1839                    | 9235                    | 1.11           | 1.24           | 13311         | 52398         |
| 83 | 5847                    | 8201                    | 3.34           | 1.33           | 10315         | 40808         |
| 84 | 4191                    | 7159                    | 2.47           | 1.54           | 9319          | 27985         |
| 85 | 4437                    | 14509                   | 2.61           | 1.70           | 9398          | 49117         |
| 86 | 2873                    | 9790                    | 2.02           | 1.47           | 7824          | 41233         |
| 87 | 3646                    | 22788                   | 2.48           | 3.10           | 8072          | 42275         |
| 88 | 2763                    | 11256                   | 1.74           | 1.94           | 9045          | 32259         |
| 89 | 1777                    | 14146                   | 1.44           | 2.07           | 7725          | 37589         |
| 90 | 1180                    | 9941                    | 1.18           | 1.72           | 7475          | 33201         |
| 91 | 2704                    | 10199                   | 1.93           | 2.10           | 7761          | 26607         |
| 92 | 3189                    | 3571                    | 2.01           | 0.93           | 8730          | 40085         |
| 93 | 5192                    | 8720                    | 3.13           | 1.84           | 9568          | 26491         |
| 94 | 5306                    | 8050                    | 1.93           | 1.65           | 15219         | 28474         |
| 95 | 3312                    | 13608                   | 1.98           | 2.57           | 9215          | 29228         |
| 96 | 4843                    | 12316                   | 2.88           | 1.69           | 9491          | 42120         |
| 97 | 4473                    | 13960                   | 2.31           | 2.46           | 10580         | 31124         |

|                 | <b>L<sub>10-1</sub></b> | <b>L<sub>10-2</sub></b> | <b>Slope-1</b> | <b>Slope-2</b> | <b>Lmean1</b> | <b>Lmean2</b> |
|-----------------|-------------------------|-------------------------|----------------|----------------|---------------|---------------|
| 98              | 5800                    | 3246                    | 3.71           | 0.98           | 9606          | 31196         |
| 99              | 1186                    | 5201                    | 1.05           | 1.19           | 9599          | 31998         |
| 100             | 3022                    | 8246                    | 1.72           | 1.37           | 10050         | 38992         |
| <b>Conf #</b>   |                         | 99                      |                |                |               | 100           |
| <b>averages</b> | 2991                    | 10804                   | 1.91           | 1.75           | 9278          | 36726         |

## APPENDIX D

### COMPLETE EXPORT FILE FOR 1 SET OF WEIBULL PARAMETERS

After all 10,000  $L_{10}$  lives and corresponding confidence numbers had been calculated for a set of Weibull parameters they were compiled in a sheet so all of the averages could be found and the data could be archived. This appendix contains the export sheet for one set of Weibull parameters, the corresponding Weibull parameters, and the resulting averages for all 10,000 cycles. It should be stated her again that each line of data in this table is the result of 100 sets of random numbers and corresponding Weibull calculations. In this case 22 fatigue failures were simulated per  $L_{10}$  life and 100  $L_{10}$  lives were calculated per confidence number, therefore each line of data represents 2,200 individual simulated fatigue failures.

| # of runs | $n_1$ | $n_2$ | ntotal | $m_1$ | $m_2$ | $L_{B,1}$ | $L_{B,2}$ | Confidence Pop |
|-----------|-------|-------|--------|-------|-------|-----------|-----------|----------------|
| 100       | 9     | 13    | 1000   | 1.8   | 1.8   | 10000     | 40000     | 1000           |

| Averages | C# - L10 | L10-1 | L10-2 | Slope-1 | Slope-2 | Lmean-1 | Lmean-2 | C# - Lmean |
|----------|----------|-------|-------|---------|---------|---------|---------|------------|
|          | 99       | 2908  | 11812 | 1.82    | 1.83    | 9444    | 37449   | 100        |

| L10 confidence number | Avg L10-1 | Avg L10-2 | Avg Slope-1 | Avg Slope-2 | Lmean1 | Lmean2 | Lmean Confidence Number |
|-----------------------|-----------|-----------|-------------|-------------|--------|--------|-------------------------|
| 99                    | 2991      | 10804     | 1.91        | 1.75        | 9278   | 36726  | 100                     |
| 100                   | 2876      | 11766     | 1.83        | 1.81        | 9393   | 38257  | 100                     |
| 99                    | 2992      | 12164     | 1.83        | 1.91        | 9687   | 36674  | 100                     |
| 100                   | 3093      | 11830     | 1.88        | 1.81        | 9510   | 37602  | 100                     |
| 97                    | 3020      | 11735     | 1.85        | 1.81        | 9540   | 37941  | 100                     |
| 100                   | 3017      | 11399     | 1.84        | 1.81        | 9756   | 36386  | 100                     |
| 99                    | 3128      | 11732     | 1.88        | 1.83        | 9593   | 37548  | 100                     |
| 100                   | 2873      | 11389     | 1.84        | 1.80        | 9269   | 37379  | 100                     |
| 99                    | 3173      | 11476     | 1.96        | 1.78        | 9612   | 37709  | 100                     |
| 99                    | 3012      | 11764     | 1.87        | 1.82        | 9413   | 37799  | 100                     |
| 100                   | 2976      | 12234     | 1.79        | 1.88        | 9760   | 37735  | 100                     |
| 100                   | 3194      | 11657     | 1.88        | 1.83        | 9839   | 36947  | 100                     |
| 100                   | 2946      | 11644     | 1.85        | 1.84        | 9367   | 37293  | 100                     |
| 100                   | 2898      | 11528     | 1.83        | 1.79        | 9373   | 37557  | 100                     |
| 100                   | 2839      | 12411     | 1.80        | 1.89        | 9288   | 38042  | 100                     |
| 100                   | 2958      | 11563     | 1.86        | 1.83        | 9394   | 36531  | 100                     |
| 100                   | 2937      | 11434     | 1.84        | 1.75        | 9326   | 38359  | 100                     |
| 100                   | 2714      | 11779     | 1.73        | 1.83        | 9652   | 37454  | 100                     |
| 100                   | 2928      | 12103     | 1.80        | 1.88        | 9815   | 37262  | 100                     |
| 99                    | 3082      | 11820     | 1.92        | 1.82        | 9565   | 37908  | 100                     |
| 99                    | 3023      | 11420     | 1.88        | 1.78        | 9458   | 37800  | 100                     |
| 100                   | 2996      | 11874     | 1.86        | 1.86        | 9379   | 36791  | 100                     |
| 97                    | 3001      | 11844     | 1.86        | 1.81        | 9550   | 37769  | 100                     |



|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2948 | 11719 | 1.84 | 1.84 | 9388 | 36667 | 100 |
|  | 100 | 2896 | 12049 | 1.79 | 1.87 | 9709 | 37285 | 100 |
|  | 99  | 2776 | 11957 | 1.77 | 1.85 | 9303 | 37335 | 100 |
|  | 100 | 2905 | 11823 | 1.81 | 1.85 | 9589 | 37001 | 100 |
|  | 100 | 2910 | 11649 | 1.82 | 1.81 | 9522 | 37164 | 100 |
|  | 99  | 2825 | 12314 | 1.82 | 1.88 | 9302 | 37646 | 100 |
|  | 99  | 2673 | 12457 | 1.70 | 1.92 | 9563 | 37244 | 100 |
|  | 99  | 2956 | 11839 | 1.83 | 1.80 | 9547 | 38561 | 100 |
|  | 100 | 2769 | 11867 | 1.82 | 1.84 | 9208 | 37242 | 100 |
|  | 99  | 3000 | 11767 | 1.86 | 1.83 | 9350 | 37156 | 100 |
|  | 99  | 2947 | 11020 | 1.83 | 1.73 | 9397 | 37401 | 100 |
|  | 100 | 2808 | 12022 | 1.81 | 1.84 | 9220 | 37558 | 100 |
|  | 100 | 2713 | 11838 | 1.74 | 1.87 | 9397 | 37024 | 100 |
|  | 99  | 2816 | 11459 | 1.81 | 1.81 | 9219 | 37376 | 100 |
|  | 100 | 2900 | 11974 | 1.85 | 1.87 | 9357 | 37079 | 100 |
|  | 100 | 2833 | 12033 | 1.77 | 1.84 | 9664 | 38089 | 100 |
|  | 100 | 3035 | 11598 | 1.90 | 1.83 | 9574 | 37168 | 100 |
|  | 100 | 2800 | 11465 | 1.76 | 1.82 | 9480 | 37074 | 100 |
|  | 99  | 2706 | 11446 | 1.75 | 1.83 | 9423 | 36253 | 100 |
|  | 99  | 2829 | 11466 | 1.78 | 1.81 | 9448 | 37042 | 100 |
|  | 100 | 2983 | 12190 | 1.88 | 1.88 | 9382 | 37614 | 100 |
|  | 99  | 2860 | 12201 | 1.82 | 1.90 | 9386 | 37314 | 100 |
|  | 100 | 3070 | 11859 | 1.88 | 1.86 | 9542 | 37214 | 100 |
|  | 99  | 3052 | 11807 | 1.89 | 1.84 | 9267 | 37070 | 100 |
|  | 100 | 2935 | 11788 | 1.85 | 1.80 | 9400 | 37992 | 100 |
|  | 99  | 2998 | 11700 | 1.86 | 1.83 | 9528 | 37371 | 100 |
|  | 100 | 2760 | 11646 | 1.75 | 1.81 | 9469 | 37416 | 100 |
|  | 99  | 3025 | 12006 | 1.85 | 1.89 | 9719 | 36806 | 100 |
|  | 99  | 2801 | 11488 | 1.79 | 1.77 | 9328 | 38255 | 100 |
|  | 100 | 2974 | 12028 | 1.83 | 1.84 | 9567 | 38072 | 100 |
|  | 99  | 2785 | 12095 | 1.76 | 1.85 | 9485 | 38011 | 100 |
|  | 100 | 2770 | 11931 | 1.78 | 1.88 | 9192 | 36994 | 100 |
|  | 100 | 2831 | 11956 | 1.76 | 1.82 | 9682 | 37825 | 100 |
|  | 99  | 3048 | 11803 | 1.89 | 1.83 | 9476 | 37159 | 100 |
|  | 99  | 2895 | 12084 | 1.81 | 1.86 | 9431 | 36950 | 100 |
|  | 98  | 2812 | 11339 | 1.80 | 1.76 | 9366 | 38084 | 100 |
|  | 99  | 2898 | 11981 | 1.79 | 1.86 | 9501 | 37708 | 100 |
|  | 99  | 2861 | 11526 | 1.85 | 1.80 | 9236 | 37546 | 100 |
|  | 98  | 3008 | 11749 | 1.86 | 1.81 | 9469 | 37815 | 100 |
|  | 100 | 2861 | 11851 | 1.83 | 1.83 | 9325 | 37450 | 100 |
|  | 99  | 2871 | 11412 | 1.85 | 1.82 | 9313 | 36838 | 100 |
|  | 99  | 2819 | 12195 | 1.76 | 1.83 | 9501 | 38596 | 100 |
|  | 99  | 2926 | 12080 | 1.85 | 1.87 | 9304 | 37319 | 100 |
|  | 100 | 2803 | 11323 | 1.81 | 1.77 | 9107 | 37331 | 100 |
|  | 100 | 2946 | 11883 | 1.83 | 1.80 | 9405 | 38408 | 100 |
|  | 100 | 2919 | 11564 | 1.80 | 1.82 | 9561 | 37185 | 100 |
|  | 100 | 2928 | 11812 | 1.87 | 1.82 | 9325 | 37555 | 100 |
|  | 100 | 2908 | 12462 | 1.83 | 1.90 | 9339 | 37884 | 100 |
|  | 99  | 2962 | 12147 | 1.85 | 1.87 | 9386 | 37609 | 100 |
|  | 100 | 2958 | 11711 | 1.83 | 1.83 | 9477 | 37101 | 100 |
|  | 99  | 3058 | 11773 | 1.88 | 1.82 | 9498 | 37668 | 100 |
|  | 98  | 2843 | 11500 | 1.80 | 1.82 | 9417 | 36538 | 100 |
|  | 100 | 2770 | 11883 | 1.75 | 1.87 | 9404 | 37118 | 100 |
|  | 99  | 2973 | 11647 | 1.87 | 1.83 | 9389 | 37195 | 100 |
|  | 99  | 2795 | 12125 | 1.78 | 1.89 | 9374 | 37451 | 100 |
|  | 99  | 3059 | 11914 | 1.86 | 1.83 | 9589 | 37449 | 100 |
|  | 100 | 2831 | 11674 | 1.77 | 1.80 | 9436 | 38118 | 100 |
|  | 99  | 2815 | 11525 | 1.74 | 1.77 | 9774 | 37958 | 100 |
|  | 99  | 3089 | 11150 | 1.90 | 1.77 | 9525 | 37005 | 100 |
|  | 100 | 2790 | 11852 | 1.78 | 1.83 | 9433 | 37575 | 100 |
|  | 100 | 2742 | 12444 | 1.76 | 1.93 | 9197 | 37718 | 100 |
|  | 98  | 3069 | 11590 | 1.87 | 1.79 | 9723 | 37764 | 100 |
|  | 100 | 3128 | 11750 | 1.87 | 1.83 | 9815 | 37069 | 100 |
|  | 99  | 2942 | 11535 | 1.83 | 1.82 | 9335 | 37398 | 100 |
|  | 100 | 2840 | 12063 | 1.80 | 1.83 | 9287 | 38037 | 100 |
|  | 97  | 2883 | 11221 | 1.82 | 1.76 | 9588 | 38124 | 100 |
|  | 99  | 3048 | 11592 | 1.87 | 1.85 | 9517 | 36760 | 100 |
|  | 100 | 3119 | 11341 | 1.94 | 1.76 | 9494 | 37516 | 100 |
|  | 100 | 2732 | 11864 | 1.80 | 1.86 | 9122 | 36832 | 100 |
|  | 100 | 3038 | 11292 | 1.85 | 1.79 | 9517 | 37211 | 100 |
|  | 99  | 2680 | 12155 | 1.75 | 1.86 | 9141 | 37929 | 100 |
|  | 100 | 3025 | 12214 | 1.87 | 1.87 | 9402 | 37340 | 100 |
|  | 100 | 2932 | 12099 | 1.84 | 1.87 | 9331 | 37652 | 100 |
|  | 99  | 2819 | 12228 | 1.79 | 1.89 | 9439 | 37933 | 100 |
|  | 96  | 3107 | 11432 | 1.85 | 1.78 | 9771 | 37366 | 100 |
|  | 100 | 2852 | 11711 | 1.78 | 1.83 | 9494 | 37493 | 100 |
|  | 100 | 3002 | 11402 | 1.87 | 1.79 | 9351 | 37288 | 100 |
|  | 99  | 2876 | 11148 | 1.80 | 1.78 | 9445 | 36804 | 100 |
|  | 100 | 3167 | 11245 | 1.92 | 1.79 | 9592 | 37162 | 100 |
|  | 100 | 2960 | 11766 | 1.86 | 1.85 | 9447 | 37349 | 100 |
|  | 100 | 2831 | 11811 | 1.80 | 1.86 | 9277 | 37151 | 100 |
|  | 99  | 2893 | 11537 | 1.87 | 1.83 | 9392 | 36824 | 100 |
|  | 100 | 2998 | 11402 | 1.86 | 1.78 | 9489 | 37982 | 100 |
|  | 99  | 2977 | 11567 | 1.88 | 1.79 | 9376 | 37820 | 100 |
|  | 99  | 2934 | 11423 | 1.82 | 1.81 | 9479 | 37027 | 100 |
|  | 99  | 2966 | 11932 | 1.85 | 1.85 | 9382 | 37466 | 100 |
|  | 100 | 2767 | 11544 | 1.71 | 1.83 | 9694 | 36462 | 100 |
|  | 99  | 2730 | 11834 | 1.77 | 1.84 | 9231 | 37618 | 100 |
|  | 100 | 2892 | 11876 | 1.80 | 1.87 | 9482 | 36870 | 100 |
|  | 100 | 3168 | 11378 | 1.90 | 1.81 | 9773 | 36418 | 100 |
|  | 100 | 3076 | 12148 | 1.89 | 1.87 | 9474 | 37096 | 100 |
|  | 98  | 3016 | 11520 | 1.87 | 1.79 | 9462 | 37441 | 100 |
|  | 100 | 2874 | 11470 | 1.77 | 1.80 | 9603 | 37085 | 100 |
|  | 99  | 2930 | 11719 | 1.80 | 1.84 | 9564 | 36483 | 100 |
|  | 98  | 3030 | 11720 | 1.87 | 1.84 | 9557 | 36684 | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2901 | 11502 | 1.80 | 1.82 | 9604 | 36921 | 100 |
| 100 | 2755 | 11638 | 1.73 | 1.83 | 9395 | 36948 | 100 |
| 100 | 2852 | 12366 | 1.78 | 1.88 | 9362 | 37809 | 100 |
| 100 | 2992 | 12043 | 1.89 | 1.84 | 9305 | 38314 | 100 |
| 99  | 2797 | 11432 | 1.75 | 1.81 | 9659 | 37433 | 100 |
| 98  | 2933 | 12110 | 1.87 | 1.87 | 9408 | 37475 | 100 |
| 100 | 2866 | 11480 | 1.83 | 1.79 | 9385 | 37306 | 100 |
| 99  | 3012 | 11572 | 1.84 | 1.78 | 9640 | 37891 | 100 |
| 98  | 2692 | 11711 | 1.74 | 1.83 | 9190 | 37140 | 100 |
| 99  | 2733 | 11670 | 1.76 | 1.81 | 9420 | 37331 | 100 |
| 100 | 2869 | 12135 | 1.82 | 1.82 | 9438 | 38531 | 100 |
| 99  | 2865 | 11726 | 1.81 | 1.82 | 9291 | 37537 | 100 |
| 100 | 2838 | 11787 | 1.83 | 1.81 | 9163 | 37662 | 100 |
| 99  | 3053 | 12091 | 1.86 | 1.87 | 9605 | 37489 | 100 |
| 100 | 3037 | 11693 | 1.86 | 1.84 | 9520 | 36626 | 100 |
| 98  | 2919 | 11793 | 1.80 | 1.86 | 9471 | 36810 | 100 |
| 100 | 2971 | 11685 | 1.88 | 1.82 | 9288 | 37095 | 100 |
| 99  | 2888 | 11617 | 1.82 | 1.81 | 9443 | 37622 | 100 |
| 99  | 3150 | 11863 | 1.91 | 1.83 | 9524 | 38046 | 100 |
| 99  | 3037 | 11523 | 1.91 | 1.78 | 9390 | 37695 | 100 |
| 98  | 2742 | 12346 | 1.77 | 1.89 | 9371 | 37276 | 100 |
| 100 | 2915 | 12172 | 1.87 | 1.88 | 9202 | 37391 | 100 |
| 100 | 2855 | 11726 | 1.78 | 1.82 | 9503 | 37722 | 100 |
| 100 | 2692 | 12220 | 1.72 | 1.87 | 9560 | 37954 | 100 |
| 100 | 3042 | 12194 | 1.93 | 1.87 | 9099 | 38005 | 100 |
| 100 | 2896 | 11738 | 1.83 | 1.85 | 9365 | 37031 | 100 |
| 98  | 2769 | 11704 | 1.76 | 1.84 | 9356 | 36865 | 100 |
| 100 | 2732 | 11340 | 1.80 | 1.79 | 9077 | 37246 | 100 |
| 100 | 2797 | 11796 | 1.78 | 1.85 | 9434 | 37066 | 100 |
| 100 | 3012 | 12669 | 1.89 | 1.94 | 9457 | 37571 | 100 |
| 99  | 3121 | 11784 | 1.86 | 1.83 | 9835 | 37191 | 100 |
| 99  | 2640 | 11447 | 1.75 | 1.81 | 9127 | 36390 | 100 |
| 100 | 2894 | 12221 | 1.90 | 1.91 | 9179 | 36607 | 100 |
| 100 | 3128 | 11804 | 1.87 | 1.84 | 9614 | 37361 | 100 |
| 98  | 2666 | 11957 | 1.74 | 1.87 | 9288 | 37368 | 100 |
| 100 | 2943 | 12321 | 1.81 | 1.86 | 9762 | 38468 | 100 |
| 99  | 2895 | 12653 | 1.79 | 1.90 | 9687 | 38044 | 100 |
| 100 | 3044 | 11032 | 1.90 | 1.76 | 9323 | 36566 | 100 |
| 98  | 2846 | 12087 | 1.88 | 1.89 | 8963 | 37049 | 100 |
| 100 | 3018 | 12057 | 1.90 | 1.88 | 9329 | 37214 | 100 |
| 100 | 2585 | 11693 | 1.71 | 1.84 | 9225 | 37399 | 100 |
| 99  | 2907 | 11245 | 1.79 | 1.77 | 9723 | 37492 | 100 |
| 100 | 2799 | 11780 | 1.76 | 1.81 | 9503 | 37967 | 100 |
| 98  | 3068 | 11535 | 1.89 | 1.77 | 9579 | 37986 | 100 |
| 100 | 2903 | 12319 | 1.79 | 1.92 | 9549 | 36906 | 100 |
| 99  | 3016 | 12389 | 1.94 | 1.93 | 8943 | 37016 | 100 |
| 100 | 2895 | 11480 | 1.85 | 1.82 | 9325 | 36743 | 100 |
| 100 | 2800 | 11585 | 1.74 | 1.79 | 9664 | 37639 | 100 |
| 100 | 3160 | 12790 | 1.91 | 1.91 | 9586 | 38705 | 100 |
| 100 | 2945 | 11823 | 1.87 | 1.85 | 9358 | 37072 | 100 |
| 100 | 2837 | 10867 | 1.78 | 1.72 | 9570 | 37246 | 100 |
| 100 | 2883 | 12444 | 1.80 | 1.94 | 9425 | 37323 | 100 |
| 98  | 2867 | 11483 | 1.77 | 1.80 | 9577 | 37072 | 100 |
| 97  | 3029 | 11253 | 1.84 | 1.75 | 9767 | 38218 | 100 |
| 100 | 3075 | 11801 | 1.88 | 1.87 | 9718 | 36909 | 100 |
| 100 | 3131 | 12397 | 1.86 | 1.85 | 9672 | 38689 | 100 |
| 100 | 3135 | 12058 | 1.89 | 1.85 | 9740 | 37719 | 100 |
| 98  | 2972 | 11944 | 1.81 | 1.83 | 9616 | 38415 | 100 |
| 100 | 2747 | 12015 | 1.72 | 1.84 | 9533 | 37815 | 100 |
| 99  | 2804 | 11632 | 1.75 | 1.80 | 9543 | 37682 | 100 |
| 99  | 3214 | 11975 | 1.92 | 1.83 | 9732 | 37661 | 100 |
| 99  | 2836 | 12304 | 1.79 | 1.87 | 9370 | 38016 | 100 |
| 99  | 2809 | 11908 | 1.75 | 1.83 | 9663 | 37828 | 100 |
| 99  | 3029 | 11200 | 1.85 | 1.78 | 9695 | 36669 | 100 |
| 99  | 2902 | 11784 | 1.83 | 1.84 | 9442 | 37551 | 100 |
| 100 | 2805 | 12195 | 1.76 | 1.86 | 9528 | 38347 | 100 |
| 99  | 2875 | 11678 | 1.81 | 1.84 | 9543 | 37158 | 100 |
| 100 | 3041 | 11718 | 1.90 | 1.84 | 9467 | 37151 | 100 |
| 98  | 3004 | 11992 | 1.86 | 1.89 | 9578 | 36723 | 100 |
| 100 | 2885 | 11693 | 1.79 | 1.81 | 9591 | 37382 | 100 |
| 99  | 2848 | 12125 | 1.80 | 1.90 | 9426 | 37463 | 100 |
| 98  | 2914 | 11724 | 1.86 | 1.82 | 9142 | 37824 | 100 |
| 100 | 2749 | 12175 | 1.77 | 1.88 | 9319 | 37307 | 100 |
| 99  | 2943 | 11665 | 1.83 | 1.85 | 9635 | 36450 | 100 |
| 100 | 2885 | 11607 | 1.87 | 1.80 | 9156 | 38132 | 100 |
| 99  | 2915 | 11765 | 1.82 | 1.84 | 9553 | 37030 | 100 |
| 97  | 2958 | 11408 | 1.87 | 1.77 | 9451 | 37936 | 100 |
| 100 | 2769 | 11611 | 1.81 | 1.83 | 9201 | 37201 | 100 |
| 99  | 3071 | 11128 | 1.92 | 1.78 | 9264 | 37128 | 100 |
| 100 | 3033 | 11443 | 1.83 | 1.79 | 9572 | 37669 | 100 |
| 100 | 2778 | 12446 | 1.78 | 1.91 | 9328 | 37827 | 100 |
| 100 | 2653 | 11664 | 1.76 | 1.82 | 9135 | 37123 | 100 |
| 99  | 2981 | 11633 | 1.85 | 1.81 | 9438 | 37686 | 100 |
| 100 | 2890 | 12032 | 1.80 | 1.86 | 9466 | 37501 | 100 |
| 100 | 2927 | 12351 | 1.86 | 1.91 | 9307 | 37194 | 100 |
| 100 | 2943 | 11781 | 1.86 | 1.82 | 9331 | 37903 | 100 |
| 100 | 3205 | 11572 | 1.97 | 1.82 | 9439 | 37133 | 100 |
| 100 | 2812 | 11636 | 1.78 | 1.84 | 9420 | 36646 | 100 |
| 99  | 2986 | 12193 | 1.86 | 1.86 | 9457 | 38082 | 100 |
| 100 | 3101 | 12087 | 1.92 | 1.84 | 9484 | 38258 | 100 |
| 100 | 3042 | 11115 | 1.95 | 1.77 | 9255 | 36624 | 100 |
| 100 | 2718 | 12042 | 1.77 | 1.82 | 9103 | 38418 | 100 |
| 100 | 2875 | 11720 | 1.81 | 1.80 | 9521 | 38094 | 100 |
| 100 | 2921 | 11505 | 1.81 | 1.80 | 9441 | 37071 | 100 |
| 99  | 2912 | 12471 | 1.83 | 1.90 | 9533 | 37558 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2762 | 11768 | 1.76 | 1.82 | 9237 | 38140 |  | 100 |
|  | 99  | 2975 | 11765 | 1.87 | 1.80 | 9319 | 37899 |  | 100 |
|  | 100 | 2637 | 11600 | 1.72 | 1.82 | 9161 | 37129 |  | 100 |
|  | 100 | 2990 | 11523 | 1.83 | 1.82 | 9722 | 37527 |  | 100 |
|  | 99  | 2779 | 12154 | 1.76 | 1.82 | 9459 | 39028 |  | 100 |
|  | 100 | 2824 | 12149 | 1.75 | 1.85 | 9652 | 38334 |  | 100 |
|  | 98  | 2956 | 12282 | 1.83 | 1.89 | 9591 | 37020 |  | 100 |
|  | 99  | 2896 | 11947 | 1.87 | 1.86 | 9319 | 37307 |  | 100 |
|  | 100 | 2918 | 12374 | 1.82 | 1.91 | 9535 | 36587 |  | 100 |
|  | 99  | 3171 | 12233 | 1.88 | 1.85 | 9882 | 38487 |  | 100 |
|  | 99  | 2821 | 11646 | 1.78 | 1.85 | 9513 | 36926 |  | 100 |
|  | 99  | 2948 | 11754 | 1.84 | 1.82 | 9328 | 38434 |  | 100 |
|  | 100 | 2820 | 12090 | 1.81 | 1.87 | 9247 | 37439 |  | 100 |
|  | 99  | 2830 | 12425 | 1.80 | 1.88 | 9383 | 38528 |  | 100 |
|  | 100 | 2869 | 11350 | 1.78 | 1.77 | 9719 | 38080 |  | 100 |
|  | 98  | 3091 | 11726 | 1.86 | 1.84 | 9628 | 37760 |  | 100 |
|  | 97  | 2932 | 11923 | 1.83 | 1.84 | 9532 | 37667 |  | 100 |
|  | 100 | 2743 | 12784 | 1.77 | 1.93 | 9414 | 38417 |  | 100 |
|  | 99  | 2794 | 11250 | 1.81 | 1.75 | 9209 | 37997 |  | 100 |
|  | 98  | 2864 | 11060 | 1.82 | 1.76 | 9374 | 37287 |  | 100 |
|  | 99  | 2750 | 11618 | 1.70 | 1.78 | 9767 | 38070 |  | 100 |
|  | 100 | 3081 | 12473 | 1.88 | 1.93 | 9574 | 37649 |  | 100 |
|  | 100 | 2849 | 11921 | 1.83 | 1.83 | 9313 | 37326 |  | 100 |
|  | 98  | 2999 | 11808 | 1.85 | 1.83 | 9396 | 37675 |  | 100 |
|  | 99  | 2832 | 11816 | 1.80 | 1.84 | 9384 | 37297 |  | 100 |
|  | 100 | 3087 | 11905 | 1.91 | 1.84 | 9346 | 37163 |  | 100 |
|  | 99  | 2842 | 11371 | 1.79 | 1.76 | 9484 | 37596 |  | 100 |
|  | 100 | 2741 | 12318 | 1.78 | 1.89 | 9184 | 37505 |  | 100 |
|  | 100 | 2704 | 12424 | 1.72 | 1.91 | 9460 | 37440 |  | 100 |
|  | 98  | 2801 | 11879 | 1.79 | 1.84 | 9346 | 37439 |  | 100 |
|  | 99  | 2665 | 12184 | 1.74 | 1.92 | 9160 | 37167 |  | 100 |
|  | 97  | 3067 | 12102 | 1.85 | 1.83 | 9596 | 38435 |  | 100 |
|  | 99  | 3027 | 12231 | 1.84 | 1.84 | 9585 | 38159 |  | 100 |
|  | 99  | 2972 | 12109 | 1.81 | 1.85 | 9613 | 37940 |  | 100 |
|  | 100 | 2990 | 11714 | 1.84 | 1.86 | 9451 | 36722 |  | 100 |
|  | 100 | 3084 | 12173 | 1.88 | 1.89 | 9620 | 36793 |  | 100 |
|  | 99  | 2905 | 12171 | 1.83 | 1.86 | 9481 | 37799 |  | 100 |
|  | 100 | 3036 | 12004 | 1.83 | 1.83 | 9855 | 37896 |  | 100 |
|  | 99  | 2967 | 12532 | 1.86 | 1.90 | 9429 | 38039 |  | 100 |
|  | 98  | 2901 | 12599 | 1.78 | 1.90 | 9697 | 38114 |  | 100 |
|  | 99  | 3030 | 11915 | 1.86 | 1.78 | 9655 | 39182 |  | 100 |
|  | 99  | 2893 | 11790 | 1.82 | 1.81 | 9408 | 37493 |  | 100 |
|  | 98  | 2729 | 11601 | 1.72 | 1.78 | 9746 | 37861 |  | 100 |
|  | 100 | 2910 | 11639 | 1.82 | 1.83 | 9549 | 37446 |  | 100 |
|  | 100 | 2810 | 12047 | 1.82 | 1.88 | 9267 | 37108 |  | 100 |
|  | 99  | 2947 | 12384 | 1.85 | 1.90 | 9462 | 37187 |  | 100 |
|  | 100 | 2944 | 12067 | 1.85 | 1.85 | 9369 | 38078 |  | 100 |
|  | 98  | 2891 | 11419 | 1.82 | 1.79 | 9324 | 37569 |  | 100 |
|  | 99  | 2855 | 11781 | 1.78 | 1.80 | 9541 | 37391 |  | 100 |
|  | 100 | 2844 | 12466 | 1.78 | 1.92 | 9663 | 37438 |  | 100 |
|  | 98  | 2876 | 11441 | 1.79 | 1.79 | 9678 | 37413 |  | 100 |
|  | 99  | 3041 | 11867 | 1.88 | 1.83 | 9512 | 37251 |  | 100 |
|  | 97  | 2717 | 11795 | 1.76 | 1.81 | 9251 | 37247 |  | 100 |
|  | 100 | 2903 | 12090 | 1.82 | 1.86 | 9431 | 37676 |  | 100 |
|  | 100 | 2711 | 12437 | 1.74 | 1.87 | 9390 | 38542 |  | 100 |
|  | 98  | 2936 | 11216 | 1.84 | 1.79 | 9538 | 36500 |  | 100 |
|  | 98  | 2933 | 11528 | 1.82 | 1.78 | 9495 | 37904 |  | 100 |
|  | 99  | 2884 | 11226 | 1.81 | 1.76 | 9340 | 37672 |  | 100 |
|  | 99  | 2717 | 11849 | 1.73 | 1.82 | 9417 | 37799 |  | 100 |
|  | 100 | 2985 | 11929 | 1.86 | 1.84 | 9396 | 37933 |  | 100 |
|  | 100 | 2951 | 11489 | 1.84 | 1.81 | 9430 | 37274 |  | 100 |
|  | 99  | 2930 | 11348 | 1.83 | 1.81 | 9466 | 36590 |  | 100 |
|  | 100 | 2647 | 11902 | 1.72 | 1.83 | 9417 | 38021 |  | 100 |
|  | 100 | 2802 | 11763 | 1.80 | 1.83 | 9328 | 37346 |  | 100 |
|  | 98  | 3090 | 12011 | 1.85 | 1.88 | 9649 | 37008 |  | 100 |
|  | 98  | 2966 | 11501 | 1.87 | 1.80 | 9349 | 37116 |  | 100 |
|  | 100 | 2805 | 11438 | 1.78 | 1.77 | 9384 | 38000 |  | 100 |
|  | 99  | 2676 | 12078 | 1.74 | 1.87 | 9245 | 37460 |  | 100 |
|  | 100 | 2929 | 11859 | 1.78 | 1.83 | 9574 | 37893 |  | 100 |
|  | 100 | 3071 | 11449 | 1.83 | 1.82 | 9669 | 37343 |  | 100 |
|  | 99  | 2976 | 12042 | 1.85 | 1.87 | 9578 | 37104 |  | 100 |
|  | 100 | 3153 | 11533 | 1.92 | 1.76 | 9727 | 38379 |  | 100 |
|  | 100 | 3106 | 12446 | 1.93 | 1.90 | 9693 | 37545 |  | 100 |
|  | 100 | 2773 | 12155 | 1.74 | 1.86 | 9578 | 37649 |  | 100 |
|  | 100 | 2980 | 11492 | 1.81 | 1.81 | 9762 | 37224 |  | 100 |
|  | 100 | 2866 | 11214 | 1.80 | 1.76 | 9492 | 37805 |  | 100 |
|  | 99  | 2803 | 12288 | 1.81 | 1.92 | 9328 | 36619 |  | 100 |
|  | 100 | 2695 | 11696 | 1.78 | 1.80 | 9245 | 37378 |  | 100 |
|  | 100 | 2716 | 12235 | 1.72 | 1.86 | 9598 | 37898 |  | 100 |
|  | 100 | 3011 | 12270 | 1.89 | 1.90 | 9367 | 37196 |  | 100 |
|  | 100 | 2838 | 11668 | 1.77 | 1.80 | 9614 | 37392 |  | 100 |
|  | 99  | 3194 | 12015 | 1.92 | 1.84 | 9566 | 37642 |  | 100 |
|  | 99  | 2779 | 11743 | 1.71 | 1.85 | 9612 | 36820 |  | 100 |
|  | 100 | 2916 | 12031 | 1.82 | 1.87 | 9397 | 37407 |  | 100 |
|  | 99  | 2551 | 12167 | 1.70 | 1.86 | 8960 | 37875 |  | 100 |
|  | 100 | 2832 | 10616 | 1.86 | 1.68 | 9254 | 37693 |  | 100 |
|  | 100 | 2986 | 12056 | 1.92 | 1.83 | 9188 | 38479 |  | 100 |
|  | 100 | 2821 | 11652 | 1.75 | 1.83 | 9472 | 37122 |  | 100 |
|  | 100 | 2813 | 12088 | 1.82 | 1.81 | 9207 | 38541 |  | 100 |
|  | 98  | 3091 | 12168 | 1.89 | 1.91 | 9660 | 36490 |  | 100 |
|  | 98  | 2795 | 11793 | 1.78 | 1.84 | 9439 | 37560 |  | 100 |
|  | 100 | 2769 | 12139 | 1.76 | 1.85 | 9492 | 38000 |  | 100 |
|  | 100 | 3001 | 12262 | 1.90 | 1.89 | 9247 | 37510 |  | 100 |
|  | 100 | 3061 | 12228 | 1.91 | 1.87 | 9478 | 37426 |  | 100 |
|  | 99  | 2707 | 12020 | 1.79 | 1.87 | 9254 | 37456 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 98  | 2766 | 11405 | 1.72 | 1.78 | 9539 | 37169 | 100 |
|  | 100 | 2874 | 11339 | 1.85 | 1.81 | 9287 | 36910 | 100 |
|  | 99  | 2934 | 12064 | 1.87 | 1.87 | 9106 | 37369 | 100 |
|  | 99  | 2773 | 11454 | 1.76 | 1.79 | 9400 | 37637 | 100 |
|  | 98  | 2834 | 11333 | 1.83 | 1.79 | 9183 | 37401 | 100 |
|  | 98  | 2964 | 11837 | 1.86 | 1.81 | 9421 | 38042 | 100 |
|  | 98  | 2873 | 11519 | 1.80 | 1.79 | 9542 | 37575 | 100 |
|  | 100 | 2873 | 11621 | 1.81 | 1.83 | 9418 | 37363 | 100 |
|  | 100 | 3186 | 12166 | 1.92 | 1.85 | 9707 | 37891 | 100 |
|  | 100 | 2834 | 12113 | 1.82 | 1.85 | 9145 | 38283 | 100 |
|  | 100 | 2872 | 11586 | 1.81 | 1.81 | 9487 | 37387 | 100 |
|  | 100 | 2770 | 11311 | 1.76 | 1.76 | 9353 | 37526 | 100 |
|  | 98  | 3143 | 11409 | 1.94 | 1.79 | 9437 | 37203 | 100 |
|  | 100 | 2971 | 12060 | 1.86 | 1.88 | 9271 | 37258 | 100 |
|  | 100 | 2981 | 11498 | 1.85 | 1.78 | 9576 | 37895 | 100 |
|  | 100 | 2959 | 12754 | 1.82 | 1.91 | 9579 | 38277 | 100 |
|  | 99  | 2780 | 11495 | 1.75 | 1.82 | 9483 | 36426 | 100 |
|  | 99  | 2988 | 11950 | 1.88 | 1.87 | 9390 | 37607 | 100 |
|  | 99  | 2710 | 12175 | 1.76 | 1.88 | 9259 | 37358 | 100 |
|  | 99  | 2998 | 12665 | 1.88 | 1.94 | 9372 | 37515 | 100 |
|  | 100 | 2917 | 12345 | 1.89 | 1.88 | 9280 | 37734 | 100 |
|  | 98  | 2921 | 12060 | 1.84 | 1.89 | 9405 | 37081 | 100 |
|  | 99  | 2824 | 11909 | 1.80 | 1.87 | 9328 | 37242 | 100 |
|  | 99  | 3023 | 11730 | 1.90 | 1.83 | 9411 | 37650 | 100 |
|  | 97  | 2812 | 11438 | 1.78 | 1.78 | 9435 | 37749 | 100 |
|  | 99  | 2855 | 11834 | 1.79 | 1.78 | 9515 | 38809 | 100 |
|  | 99  | 2839 | 12751 | 1.78 | 1.93 | 9312 | 38277 | 100 |
|  | 99  | 3021 | 11847 | 1.84 | 1.80 | 9677 | 37970 | 100 |
|  | 99  | 2835 | 11582 | 1.80 | 1.80 | 9376 | 38177 | 100 |
|  | 99  | 2952 | 12368 | 1.90 | 1.92 | 9213 | 37180 | 100 |
|  | 98  | 2849 | 12674 | 1.81 | 1.89 | 9298 | 37982 | 100 |
|  | 98  | 2763 | 11483 | 1.82 | 1.76 | 9215 | 38229 | 100 |
|  | 99  | 3098 | 11820 | 1.93 | 1.82 | 9452 | 38060 | 100 |
|  | 100 | 2850 | 12045 | 1.79 | 1.88 | 9745 | 37298 | 100 |
|  | 99  | 2643 | 11874 | 1.64 | 1.81 | 9611 | 37891 | 100 |
|  | 99  | 2904 | 11367 | 1.80 | 1.81 | 9464 | 36971 | 100 |
|  | 99  | 2753 | 12051 | 1.76 | 1.87 | 9476 | 37445 | 100 |
|  | 99  | 2951 | 11483 | 1.84 | 1.80 | 9526 | 37369 | 100 |
|  | 99  | 2914 | 11567 | 1.84 | 1.82 | 9386 | 36947 | 100 |
|  | 99  | 2947 | 11327 | 1.84 | 1.81 | 9513 | 36902 | 100 |
|  | 99  | 2756 | 11123 | 1.77 | 1.74 | 9326 | 37760 | 100 |
|  | 100 | 2990 | 12207 | 1.82 | 1.87 | 9726 | 37693 | 100 |
|  | 100 | 2859 | 11813 | 1.83 | 1.85 | 9263 | 37133 | 100 |
|  | 100 | 2935 | 12901 | 1.89 | 1.96 | 9123 | 37523 | 100 |
|  | 100 | 3089 | 12052 | 1.88 | 1.86 | 9598 | 37596 | 100 |
|  | 98  | 2717 | 11850 | 1.75 | 1.85 | 9189 | 36955 | 100 |
|  | 99  | 2860 | 12745 | 1.80 | 1.89 | 9623 | 38659 | 100 |
|  | 100 | 2707 | 11739 | 1.72 | 1.84 | 9488 | 36887 | 100 |
|  | 99  | 2772 | 11520 | 1.78 | 1.82 | 9393 | 37231 | 100 |
|  | 98  | 2970 | 11921 | 1.87 | 1.85 | 9464 | 37278 | 100 |
|  | 100 | 3038 | 12019 | 1.88 | 1.83 | 9478 | 37985 | 100 |
|  | 100 | 2916 | 11909 | 1.79 | 1.81 | 9679 | 38535 | 100 |
|  | 99  | 2873 | 11641 | 1.81 | 1.86 | 9287 | 36157 | 100 |
|  | 100 | 2852 | 11145 | 1.77 | 1.78 | 9756 | 37189 | 100 |
|  | 99  | 2904 | 11667 | 1.80 | 1.81 | 9446 | 37590 | 100 |
|  | 100 | 3121 | 11719 | 1.96 | 1.81 | 9377 | 37475 | 100 |
|  | 99  | 2982 | 12503 | 1.85 | 1.92 | 9488 | 37562 | 100 |
|  | 98  | 2916 | 11411 | 1.85 | 1.81 | 9217 | 36772 | 100 |
|  | 100 | 2813 | 11705 | 1.81 | 1.82 | 9362 | 37429 | 100 |
|  | 98  | 3020 | 11518 | 1.87 | 1.84 | 9302 | 36935 | 100 |
|  | 100 | 2844 | 11912 | 1.80 | 1.85 | 9393 | 37463 | 100 |
|  | 100 | 2775 | 12259 | 1.81 | 1.91 | 9114 | 37031 | 100 |
|  | 100 | 2894 | 11480 | 1.82 | 1.81 | 9316 | 37055 | 100 |
|  | 100 | 3045 | 12024 | 1.90 | 1.84 | 9458 | 37806 | 100 |
|  | 100 | 2870 | 12545 | 1.83 | 1.90 | 9369 | 37626 | 100 |
|  | 100 | 2775 | 12277 | 1.81 | 1.86 | 9259 | 38728 | 100 |
|  | 100 | 2968 | 12226 | 1.86 | 1.88 | 9407 | 37640 | 100 |
|  | 98  | 2731 | 12164 | 1.76 | 1.91 | 9300 | 37106 | 100 |
|  | 97  | 3153 | 11097 | 1.91 | 1.73 | 9546 | 37999 | 100 |
|  | 99  | 2977 | 11636 | 1.82 | 1.83 | 9542 | 36752 | 100 |
|  | 99  | 2873 | 11828 | 1.82 | 1.84 | 9253 | 38233 | 100 |
|  | 98  | 2822 | 11707 | 1.77 | 1.79 | 9492 | 37730 | 100 |
|  | 98  | 2886 | 11514 | 1.83 | 1.76 | 9339 | 38250 | 100 |
|  | 100 | 2729 | 12073 | 1.79 | 1.89 | 9207 | 36899 | 100 |
|  | 99  | 2761 | 11756 | 1.78 | 1.82 | 9301 | 37442 | 100 |
|  | 99  | 3158 | 11659 | 1.90 | 1.81 | 9646 | 37468 | 100 |
|  | 99  | 2810 | 12173 | 1.80 | 1.91 | 9341 | 36286 | 100 |
|  | 100 | 2914 | 11914 | 1.83 | 1.85 | 9399 | 37704 | 100 |
|  | 99  | 2996 | 11445 | 1.85 | 1.82 | 9447 | 36824 | 100 |
|  | 98  | 2909 | 11888 | 1.89 | 1.84 | 9190 | 37210 | 100 |
|  | 100 | 2790 | 11484 | 1.75 | 1.84 | 9492 | 36278 | 100 |
|  | 100 | 2814 | 11968 | 1.80 | 1.83 | 9397 | 37796 | 100 |
|  | 99  | 2942 | 12352 | 1.82 | 1.91 | 9608 | 37473 | 100 |
|  | 99  | 2877 | 11541 | 1.81 | 1.83 | 9395 | 37066 | 100 |
|  | 100 | 2815 | 12087 | 1.79 | 1.85 | 9399 | 37594 | 100 |
|  | 99  | 2901 | 11793 | 1.87 | 1.81 | 9063 | 37810 | 100 |
|  | 99  | 3022 | 11981 | 1.86 | 1.88 | 9583 | 36601 | 100 |
|  | 98  | 2733 | 11524 | 1.74 | 1.78 | 9375 | 37839 | 100 |
|  | 99  | 2942 | 11467 | 1.79 | 1.80 | 9943 | 37010 | 100 |
|  | 99  | 3020 | 12213 | 1.85 | 1.87 | 9556 | 37901 | 100 |
|  | 100 | 2658 | 12075 | 1.71 | 1.83 | 9376 | 37794 | 100 |
|  | 99  | 2864 | 11300 | 1.80 | 1.77 | 9432 | 37612 | 100 |
|  | 100 | 2878 | 11734 | 1.84 | 1.83 | 9317 | 37728 | 100 |
|  | 98  | 2916 | 11692 | 1.85 | 1.83 | 9264 | 37732 | 100 |
|  | 98  | 3063 | 12540 | 1.84 | 1.91 | 9691 | 38388 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2831 | 12283 | 1.81 | 1.91 | 9252 | 37481 |  | 100 |
|  | 100 | 3004 | 10935 | 1.86 | 1.72 | 9445 | 37650 |  | 100 |
|  | 99  | 2910 | 12094 | 1.81 | 1.91 | 9545 | 36646 |  | 100 |
|  | 99  | 3158 | 11514 | 1.91 | 1.79 | 9581 | 37240 |  | 100 |
|  | 100 | 2852 | 11562 | 1.80 | 1.80 | 9450 | 37810 |  | 100 |
|  | 99  | 2869 | 12192 | 1.79 | 1.91 | 9489 | 36823 |  | 100 |
|  | 99  | 2706 | 11914 | 1.76 | 1.82 | 9449 | 38454 |  | 100 |
|  | 100 | 2869 | 12024 | 1.78 | 1.87 | 9590 | 37499 |  | 100 |
|  | 100 | 3010 | 12724 | 1.87 | 1.91 | 9361 | 37560 |  | 100 |
|  | 100 | 3019 | 11411 | 1.86 | 1.78 | 9635 | 37072 |  | 100 |
|  | 100 | 2834 | 12203 | 1.79 | 1.89 | 9359 | 37183 |  | 100 |
|  | 99  | 3243 | 11806 | 1.93 | 1.84 | 9725 | 37439 |  | 100 |
|  | 98  | 3041 | 12260 | 1.87 | 1.89 | 9413 | 37561 |  | 100 |
|  | 100 | 2924 | 12297 | 1.83 | 1.88 | 9352 | 37499 |  | 100 |
|  | 98  | 2865 | 11903 | 1.78 | 1.80 | 9570 | 38697 |  | 100 |
|  | 100 | 2683 | 12009 | 1.70 | 1.88 | 9430 | 37229 |  | 100 |
|  | 100 | 2893 | 11750 | 1.84 | 1.80 | 9254 | 38070 |  | 100 |
|  | 100 | 2696 | 11410 | 1.72 | 1.80 | 9483 | 37220 |  | 100 |
|  | 100 | 3254 | 12082 | 1.91 | 1.88 | 9808 | 37288 |  | 100 |
|  | 100 | 2877 | 12165 | 1.80 | 1.88 | 9490 | 37249 |  | 100 |
|  | 100 | 2923 | 11957 | 1.85 | 1.86 | 9325 | 37312 |  | 100 |
|  | 100 | 2790 | 12001 | 1.79 | 1.83 | 9372 | 37551 |  | 100 |
|  | 97  | 2915 | 12159 | 1.85 | 1.88 | 9286 | 37508 |  | 100 |
|  | 100 | 3229 | 11908 | 1.92 | 1.84 | 9617 | 37473 |  | 100 |
|  | 99  | 2819 | 12242 | 1.81 | 1.88 | 9192 | 37832 |  | 100 |
|  | 98  | 2861 | 10893 | 1.79 | 1.74 | 9544 | 37755 |  | 100 |
|  | 99  | 2923 | 12122 | 1.79 | 1.91 | 9744 | 36611 |  | 100 |
|  | 100 | 2839 | 11873 | 1.82 | 1.86 | 9290 | 36938 |  | 100 |
|  | 99  | 2864 | 11913 | 1.79 | 1.86 | 9523 | 37042 |  | 100 |
|  | 97  | 2916 | 12113 | 1.82 | 1.87 | 9613 | 37601 |  | 100 |
|  | 99  | 3014 | 11669 | 1.84 | 1.79 | 9602 | 37926 |  | 100 |
|  | 98  | 3137 | 11385 | 1.96 | 1.81 | 9186 | 36531 |  | 100 |
|  | 99  | 2872 | 12608 | 1.82 | 1.93 | 9435 | 37830 |  | 100 |
|  | 99  | 3005 | 11497 | 1.82 | 1.83 | 9676 | 37321 |  | 100 |
|  | 99  | 3021 | 11765 | 1.89 | 1.85 | 9253 | 37251 |  | 100 |
|  | 99  | 2854 | 11434 | 1.78 | 1.82 | 9526 | 36866 |  | 100 |
|  | 98  | 2728 | 11843 | 1.74 | 1.80 | 9340 | 38587 |  | 100 |
|  | 99  | 2851 | 11822 | 1.76 | 1.84 | 9851 | 37550 |  | 100 |
|  | 99  | 2693 | 12266 | 1.76 | 1.91 | 9221 | 37351 |  | 100 |
|  | 99  | 2917 | 12022 | 1.82 | 1.87 | 9449 | 36948 |  | 100 |
|  | 98  | 2972 | 11591 | 1.87 | 1.83 | 9339 | 36617 |  | 100 |
|  | 100 | 3007 | 11760 | 1.86 | 1.83 | 9620 | 37426 |  | 100 |
|  | 99  | 3077 | 11619 | 1.85 | 1.82 | 9567 | 37226 |  | 100 |
|  | 100 | 3039 | 12027 | 1.87 | 1.85 | 9647 | 37600 |  | 100 |
|  | 97  | 3010 | 11115 | 1.88 | 1.74 | 9291 | 37735 |  | 100 |
|  | 98  | 2830 | 11799 | 1.79 | 1.82 | 9376 | 38073 |  | 100 |
|  | 100 | 2985 | 12302 | 1.89 | 1.91 | 9314 | 37189 |  | 100 |
|  | 98  | 2753 | 11619 | 1.77 | 1.81 | 9233 | 37211 |  | 100 |
|  | 99  | 2898 | 11795 | 1.80 | 1.86 | 9580 | 36638 |  | 100 |
|  | 98  | 3054 | 11774 | 1.87 | 1.81 | 9612 | 38067 |  | 100 |
|  | 99  | 3026 | 11919 | 1.82 | 1.89 | 9615 | 36687 |  | 100 |
|  | 99  | 3010 | 11804 | 1.87 | 1.83 | 9382 | 37890 |  | 100 |
|  | 96  | 3002 | 11009 | 1.83 | 1.79 | 9576 | 35963 |  | 100 |
|  | 99  | 2868 | 11818 | 1.79 | 1.83 | 9571 | 37446 |  | 100 |
|  | 100 | 2807 | 11916 | 1.77 | 1.87 | 9402 | 36729 |  | 100 |
|  | 100 | 2992 | 12025 | 1.85 | 1.82 | 9358 | 38240 |  | 100 |
|  | 99  | 2924 | 11773 | 1.81 | 1.83 | 9524 | 37691 |  | 100 |
|  | 100 | 2724 | 12374 | 1.70 | 1.89 | 9570 | 37390 |  | 100 |
|  | 100 | 2783 | 11659 | 1.74 | 1.83 | 9558 | 37202 |  | 100 |
|  | 99  | 2656 | 11881 | 1.72 | 1.88 | 9334 | 36577 |  | 100 |
|  | 99  | 2779 | 12146 | 1.74 | 1.85 | 9469 | 38103 |  | 100 |
|  | 99  | 2951 | 12890 | 1.85 | 1.93 | 9423 | 38207 |  | 100 |
|  | 100 | 2745 | 11921 | 1.74 | 1.80 | 9392 | 37931 |  | 100 |
|  | 99  | 2901 | 11384 | 1.84 | 1.81 | 9339 | 37501 |  | 100 |
|  | 99  | 2929 | 12188 | 1.83 | 1.87 | 9436 | 37835 |  | 100 |
|  | 99  | 3003 | 11316 | 1.89 | 1.77 | 9167 | 38026 |  | 100 |
|  | 99  | 3131 | 11848 | 1.89 | 1.85 | 9581 | 36845 |  | 100 |
|  | 100 | 3047 | 12549 | 1.88 | 1.89 | 9526 | 38435 |  | 100 |
|  | 100 | 2730 | 12504 | 1.75 | 1.89 | 9402 | 37845 |  | 100 |
|  | 100 | 2884 | 12839 | 1.83 | 1.93 | 9241 | 37829 |  | 100 |
|  | 100 | 3099 | 11464 | 1.89 | 1.78 | 9620 | 37717 |  | 100 |
|  | 99  | 2848 | 11517 | 1.79 | 1.81 | 9610 | 37119 |  | 100 |
|  | 100 | 2684 | 12375 | 1.72 | 1.89 | 9339 | 37771 |  | 100 |
|  | 100 | 2914 | 11302 | 1.79 | 1.80 | 9557 | 37156 |  | 100 |
|  | 100 | 2853 | 11323 | 1.80 | 1.77 | 9201 | 37755 |  | 100 |
|  | 99  | 3063 | 12268 | 1.93 | 1.90 | 9201 | 36997 |  | 100 |
|  | 99  | 3021 | 11118 | 1.92 | 1.70 | 9339 | 38561 |  | 100 |
|  | 100 | 2918 | 11724 | 1.87 | 1.84 | 9231 | 36925 |  | 100 |
|  | 100 | 3013 | 11801 | 1.83 | 1.83 | 9690 | 37142 |  | 100 |
|  | 98  | 2849 | 12163 | 1.73 | 1.85 | 9808 | 37703 |  | 100 |
|  | 97  | 2883 | 11476 | 1.81 | 1.79 | 9452 | 37387 |  | 100 |
|  | 100 | 2780 | 11375 | 1.78 | 1.79 | 9237 | 36939 |  | 100 |
|  | 100 | 2746 | 11568 | 1.75 | 1.82 | 9330 | 36852 |  | 100 |
|  | 100 | 2823 | 12189 | 1.77 | 1.86 | 9540 | 37869 |  | 100 |
|  | 100 | 2960 | 11749 | 1.88 | 1.79 | 9221 | 38119 |  | 100 |
|  | 99  | 2885 | 11705 | 1.85 | 1.82 | 9188 | 38165 |  | 100 |
|  | 99  | 2847 | 11400 | 1.80 | 1.79 | 9619 | 37012 |  | 100 |
|  | 100 | 2824 | 11393 | 1.80 | 1.83 | 9478 | 36574 |  | 100 |
|  | 100 | 2734 | 12239 | 1.75 | 1.91 | 9467 | 36895 |  | 100 |
|  | 98  | 2910 | 12178 | 1.81 | 1.85 | 9641 | 37709 |  | 100 |
|  | 100 | 2749 | 12015 | 1.78 | 1.84 | 9185 | 37934 |  | 100 |
|  | 100 | 2796 | 12053 | 1.81 | 1.85 | 9374 | 37799 |  | 100 |
|  | 100 | 2973 | 11727 | 1.86 | 1.84 | 9576 | 37248 |  | 100 |
|  | 100 | 2737 | 12093 | 1.78 | 1.88 | 9152 | 37172 |  | 100 |
|  | 100 | 2881 | 12214 | 1.80 | 1.87 | 9537 | 37784 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 97  | 2934 | 12098 | 1.81 | 1.82 | 9616 | 38176 | 100 |
|  | 98  | 2720 | 11843 | 1.77 | 1.83 | 9255 | 37396 | 100 |
|  | 100 | 2747 | 13016 | 1.84 | 1.96 | 8996 | 38091 | 100 |
|  | 100 | 2813 | 11430 | 1.81 | 1.81 | 9377 | 36738 | 100 |
|  | 99  | 2932 | 11637 | 1.87 | 1.81 | 9398 | 37811 | 100 |
|  | 98  | 2871 | 11709 | 1.80 | 1.84 | 9354 | 36652 | 100 |
|  | 100 | 3115 | 12132 | 1.93 | 1.89 | 9289 | 36998 | 100 |
|  | 99  | 3037 | 11823 | 1.88 | 1.81 | 9553 | 38043 | 100 |
|  | 100 | 2872 | 12064 | 1.84 | 1.86 | 9348 | 37479 | 100 |
|  | 100 | 3010 | 12089 | 1.82 | 1.85 | 9696 | 37654 | 100 |
|  | 99  | 2818 | 11869 | 1.77 | 1.84 | 9422 | 37157 | 100 |
|  | 100 | 2731 | 11564 | 1.75 | 1.77 | 9410 | 37829 | 100 |
|  | 99  | 2787 | 11436 | 1.83 | 1.78 | 9183 | 37301 | 100 |
|  | 100 | 2841 | 11872 | 1.78 | 1.89 | 9498 | 36552 | 100 |
|  | 100 | 2936 | 12144 | 1.85 | 1.86 | 9316 | 37911 | 100 |
|  | 99  | 2802 | 12579 | 1.76 | 1.91 | 9606 | 37853 | 100 |
|  | 99  | 2954 | 12207 | 1.82 | 1.86 | 9533 | 38111 | 100 |
|  | 100 | 2975 | 11219 | 1.84 | 1.77 | 9434 | 37183 | 100 |
|  | 100 | 3057 | 11546 | 1.88 | 1.83 | 9496 | 36622 | 100 |
|  | 100 | 2892 | 11436 | 1.80 | 1.81 | 9514 | 37496 | 100 |
|  | 100 | 2970 | 12286 | 1.85 | 1.91 | 9400 | 37194 | 100 |
|  | 97  | 3065 | 12215 | 1.92 | 1.89 | 9456 | 37204 | 100 |
|  | 100 | 3168 | 11182 | 1.95 | 1.77 | 9478 | 36931 | 100 |
|  | 100 | 2995 | 11626 | 1.88 | 1.79 | 9409 | 37691 | 100 |
|  | 100 | 2754 | 12292 | 1.74 | 1.90 | 9412 | 37486 | 100 |
|  | 99  | 2960 | 11356 | 1.86 | 1.80 | 9411 | 36707 | 100 |
|  | 100 | 2776 | 12235 | 1.76 | 1.92 | 9536 | 36710 | 100 |
|  | 100 | 2910 | 12278 | 1.84 | 1.88 | 9444 | 38027 | 100 |
|  | 100 | 2872 | 11818 | 1.85 | 1.80 | 9195 | 38129 | 100 |
|  | 100 | 3009 | 11516 | 1.89 | 1.83 | 9387 | 36819 | 100 |
|  | 99  | 2909 | 11503 | 1.82 | 1.82 | 9483 | 36607 | 100 |
|  | 98  | 3043 | 11861 | 1.87 | 1.82 | 9599 | 37516 | 100 |
|  | 100 | 2981 | 12128 | 1.90 | 1.87 | 9298 | 37496 | 100 |
|  | 99  | 3058 | 12289 | 1.88 | 1.87 | 9575 | 38037 | 100 |
|  | 100 | 3252 | 12369 | 1.97 | 1.86 | 9508 | 37896 | 100 |
|  | 99  | 2948 | 11727 | 1.87 | 1.82 | 9354 | 37126 | 100 |
|  | 100 | 3062 | 12136 | 1.88 | 1.86 | 9528 | 37663 | 100 |
|  | 99  | 3006 | 12294 | 1.88 | 1.87 | 9458 | 38323 | 100 |
|  | 100 | 3094 | 11937 | 1.89 | 1.83 | 9621 | 37662 | 100 |
|  | 100 | 2912 | 11509 | 1.81 | 1.81 | 9501 | 36875 | 100 |
|  | 99  | 3366 | 11835 | 2.00 | 1.85 | 9733 | 37501 | 100 |
|  | 100 | 3007 | 11327 | 1.86 | 1.79 | 9506 | 37166 | 100 |
|  | 100 | 2762 | 12037 | 1.77 | 1.88 | 9228 | 37017 | 100 |
|  | 99  | 2951 | 11967 | 1.86 | 1.85 | 9392 | 37297 | 100 |
|  | 99  | 3087 | 11771 | 1.88 | 1.81 | 9592 | 38110 | 100 |
|  | 99  | 2988 | 11735 | 1.82 | 1.87 | 9779 | 36503 | 100 |
|  | 100 | 3125 | 11708 | 1.91 | 1.85 | 9484 | 36623 | 100 |
|  | 99  | 3029 | 12016 | 1.87 | 1.85 | 9405 | 37674 | 100 |
|  | 98  | 2869 | 11930 | 1.77 | 1.84 | 9585 | 37734 | 100 |
|  | 99  | 2951 | 12312 | 1.86 | 1.88 | 9279 | 37813 | 100 |
|  | 100 | 2891 | 11854 | 1.78 | 1.83 | 9571 | 37841 | 100 |
|  | 99  | 3059 | 11459 | 1.92 | 1.79 | 9347 | 37539 | 100 |
|  | 100 | 2947 | 11359 | 1.87 | 1.80 | 9186 | 36852 | 100 |
|  | 99  | 3039 | 12187 | 1.87 | 1.83 | 9595 | 38387 | 100 |
|  | 100 | 2791 | 12052 | 1.80 | 1.85 | 9361 | 37569 | 100 |
|  | 100 | 2767 | 11750 | 1.77 | 1.83 | 9202 | 36930 | 100 |
|  | 100 | 2680 | 11891 | 1.75 | 1.80 | 9203 | 38744 | 100 |
|  | 100 | 2805 | 11993 | 1.78 | 1.88 | 9509 | 37225 | 100 |
|  | 99  | 3051 | 11977 | 1.90 | 1.89 | 9576 | 36861 | 100 |
|  | 98  | 2929 | 12573 | 1.85 | 1.92 | 9417 | 37597 | 100 |
|  | 100 | 2717 | 11480 | 1.75 | 1.78 | 9404 | 37947 | 100 |
|  | 99  | 2840 | 11586 | 1.81 | 1.84 | 9460 | 36152 | 100 |
|  | 100 | 2903 | 11670 | 1.87 | 1.80 | 9126 | 37601 | 100 |
|  | 99  | 2848 | 11872 | 1.83 | 1.83 | 9291 | 37578 | 100 |
|  | 99  | 2779 | 11751 | 1.77 | 1.83 | 9322 | 37412 | 100 |
|  | 99  | 2745 | 12093 | 1.76 | 1.86 | 9357 | 38303 | 100 |
|  | 100 | 2850 | 11866 | 1.79 | 1.81 | 9487 | 37743 | 100 |
|  | 98  | 3054 | 11964 | 1.87 | 1.84 | 9511 | 37199 | 100 |
|  | 99  | 2935 | 11598 | 1.82 | 1.80 | 9450 | 38146 | 100 |
|  | 100 | 2983 | 11408 | 1.88 | 1.78 | 9223 | 37481 | 100 |
|  | 98  | 2851 | 11621 | 1.79 | 1.80 | 9373 | 37671 | 100 |
|  | 99  | 2943 | 12535 | 1.83 | 1.90 | 9345 | 38564 | 100 |
|  | 100 | 2849 | 11908 | 1.79 | 1.81 | 9382 | 38119 | 100 |
|  | 100 | 2739 | 12209 | 1.75 | 1.84 | 9428 | 38391 | 100 |
|  | 100 | 2910 | 11953 | 1.84 | 1.84 | 9481 | 37380 | 100 |
|  | 99  | 2964 | 11835 | 1.84 | 1.85 | 9331 | 37193 | 100 |
|  | 99  | 2930 | 12452 | 1.83 | 1.90 | 9540 | 37833 | 100 |
|  | 100 | 2797 | 11457 | 1.81 | 1.81 | 9462 | 37018 | 100 |
|  | 100 | 2729 | 11986 | 1.79 | 1.86 | 9131 | 37221 | 100 |
|  | 100 | 2915 | 11465 | 1.82 | 1.81 | 9565 | 37097 | 100 |
|  | 100 | 3123 | 11266 | 1.86 | 1.80 | 9657 | 36898 | 100 |
|  | 99  | 2866 | 11168 | 1.81 | 1.74 | 9408 | 37476 | 100 |
|  | 100 | 2833 | 11469 | 1.82 | 1.81 | 9370 | 36936 | 100 |
|  | 100 | 3062 | 11866 | 1.89 | 1.84 | 9371 | 37410 | 100 |
|  | 100 | 3293 | 11998 | 1.95 | 1.87 | 9697 | 37016 | 100 |
|  | 100 | 2860 | 11640 | 1.79 | 1.83 | 9349 | 37027 | 100 |
|  | 100 | 2744 | 11882 | 1.70 | 1.88 | 9711 | 36683 | 100 |
|  | 98  | 3087 | 12424 | 1.89 | 1.89 | 9585 | 37939 | 100 |
|  | 99  | 2744 | 11551 | 1.77 | 1.82 | 9294 | 37840 | 100 |
|  | 100 | 3029 | 12086 | 1.89 | 1.86 | 9495 | 37778 | 100 |
|  | 98  | 2846 | 12297 | 1.83 | 1.88 | 9188 | 37649 | 100 |
|  | 99  | 3176 | 11520 | 1.91 | 1.80 | 9696 | 37082 | 100 |
|  | 100 | 2995 | 11906 | 1.87 | 1.83 | 9373 | 37778 | 100 |
|  | 99  | 2871 | 11842 | 1.78 | 1.84 | 9634 | 36987 | 100 |
|  | 99  | 2893 | 10905 | 1.85 | 1.72 | 9325 | 37610 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2777 | 11244 | 1.77 | 1.77 | 9231 | 37266 |  | 100 |
|  | 100 | 2874 | 11882 | 1.84 | 1.85 | 9090 | 37117 |  | 100 |
|  | 98  | 3065 | 12020 | 1.88 | 1.85 | 9495 | 36978 |  | 100 |
|  | 99  | 2704 | 11789 | 1.74 | 1.85 | 9482 | 36951 |  | 100 |
|  | 100 | 3073 | 11952 | 1.92 | 1.82 | 9457 | 38396 |  | 100 |
|  | 100 | 2909 | 12137 | 1.78 | 1.87 | 9672 | 37628 |  | 100 |
|  | 100 | 2955 | 11853 | 1.89 | 1.83 | 9353 | 37825 |  | 100 |
|  | 100 | 2854 | 11714 | 1.82 | 1.83 | 9468 | 37099 |  | 100 |
|  | 100 | 2651 | 11989 | 1.69 | 1.85 | 9587 | 37861 |  | 100 |
|  | 100 | 2772 | 11959 | 1.74 | 1.86 | 9595 | 37019 |  | 100 |
|  | 97  | 3163 | 11358 | 1.96 | 1.82 | 9389 | 36942 |  | 100 |
|  | 100 | 2817 | 12249 | 1.78 | 1.89 | 9364 | 37428 |  | 100 |
|  | 99  | 2846 | 11775 | 1.78 | 1.83 | 9584 | 37585 |  | 100 |
|  | 98  | 2790 | 12965 | 1.78 | 1.93 | 9174 | 37994 |  | 100 |
|  | 99  | 2810 | 12196 | 1.79 | 1.84 | 9373 | 38330 |  | 100 |
|  | 99  | 3052 | 11506 | 1.92 | 1.79 | 9406 | 37761 |  | 100 |
|  | 100 | 2940 | 11918 | 1.83 | 1.87 | 9429 | 37065 |  | 100 |
|  | 100 | 3047 | 11990 | 1.86 | 1.85 | 9555 | 37863 |  | 100 |
|  | 98  | 2928 | 11747 | 1.79 | 1.79 | 9580 | 38023 |  | 100 |
|  | 100 | 2742 | 11944 | 1.72 | 1.84 | 9496 | 37691 |  | 100 |
|  | 98  | 2971 | 11678 | 1.84 | 1.81 | 9606 | 37724 |  | 100 |
|  | 100 | 2946 | 11984 | 1.81 | 1.86 | 9553 | 37329 |  | 100 |
|  | 100 | 2756 | 12260 | 1.73 | 1.90 | 9580 | 37188 |  | 100 |
|  | 100 | 3045 | 12810 | 1.91 | 1.97 | 9299 | 37753 |  | 100 |
|  | 100 | 3011 | 11474 | 1.86 | 1.78 | 9538 | 37631 |  | 100 |
|  | 100 | 3019 | 11597 | 1.88 | 1.80 | 9494 | 37680 |  | 100 |
|  | 99  | 2970 | 11495 | 1.83 | 1.81 | 9700 | 37079 |  | 100 |
|  | 100 | 2838 | 11498 | 1.79 | 1.80 | 9451 | 37695 |  | 100 |
|  | 100 | 2999 | 11633 | 1.88 | 1.83 | 9394 | 37273 |  | 100 |
|  | 98  | 3097 | 11640 | 1.89 | 1.79 | 9439 | 37451 |  | 100 |
|  | 100 | 2968 | 11408 | 1.87 | 1.79 | 9334 | 37006 |  | 100 |
|  | 99  | 2910 | 11083 | 1.87 | 1.73 | 9193 | 37893 |  | 100 |
|  | 100 | 2843 | 12285 | 1.80 | 1.91 | 9334 | 36946 |  | 100 |
|  | 100 | 2933 | 11699 | 1.79 | 1.83 | 9795 | 37416 |  | 100 |
|  | 99  | 2853 | 11436 | 1.81 | 1.79 | 9392 | 36822 |  | 100 |
|  | 100 | 3037 | 11363 | 1.88 | 1.78 | 9713 | 37304 |  | 100 |
|  | 99  | 2942 | 11966 | 1.83 | 1.82 | 9435 | 38146 |  | 100 |
|  | 100 | 2904 | 12199 | 1.85 | 1.85 | 9281 | 37832 |  | 100 |
|  | 99  | 2859 | 11681 | 1.82 | 1.82 | 9230 | 37723 |  | 100 |
|  | 100 | 2733 | 12344 | 1.78 | 1.85 | 9254 | 37818 |  | 100 |
|  | 100 | 3061 | 11649 | 1.87 | 1.80 | 9505 | 37935 |  | 100 |
|  | 99  | 2952 | 12354 | 1.86 | 1.89 | 9569 | 37618 |  | 100 |
|  | 100 | 2954 | 11434 | 1.90 | 1.82 | 9109 | 37050 |  | 100 |
|  | 100 | 2925 | 12136 | 1.87 | 1.86 | 9260 | 37371 |  | 100 |
|  | 100 | 2745 | 12284 | 1.72 | 1.86 | 9563 | 38025 |  | 100 |
|  | 100 | 2819 | 12211 | 1.74 | 1.88 | 9559 | 37701 |  | 100 |
|  | 100 | 2986 | 11505 | 1.88 | 1.79 | 9410 | 37582 |  | 100 |
|  | 100 | 3092 | 11835 | 1.91 | 1.80 | 9276 | 38033 |  | 100 |
|  | 99  | 2856 | 11518 | 1.77 | 1.82 | 9652 | 37578 |  | 100 |
|  | 100 | 2964 | 12039 | 1.84 | 1.90 | 9413 | 36463 |  | 100 |
|  | 100 | 3109 | 12053 | 1.87 | 1.84 | 9795 | 37642 |  | 100 |
|  | 99  | 2901 | 11446 | 1.84 | 1.78 | 9387 | 37290 |  | 100 |
|  | 100 | 2966 | 12134 | 1.84 | 1.87 | 9374 | 37089 |  | 100 |
|  | 100 | 3035 | 11217 | 1.86 | 1.80 | 9472 | 36518 |  | 100 |
|  | 99  | 3034 | 11811 | 1.87 | 1.84 | 9356 | 38138 |  | 100 |
|  | 100 | 2927 | 12286 | 1.85 | 1.94 | 9265 | 36808 |  | 100 |
|  | 99  | 2816 | 11713 | 1.74 | 1.84 | 9708 | 36762 |  | 100 |
|  | 97  | 3173 | 11793 | 1.94 | 1.85 | 9464 | 37239 |  | 100 |
|  | 100 | 2803 | 11966 | 1.80 | 1.89 | 9271 | 37055 |  | 100 |
|  | 98  | 3169 | 11811 | 1.93 | 1.87 | 9525 | 36450 |  | 100 |
|  | 100 | 2737 | 11357 | 1.74 | 1.78 | 9702 | 37575 |  | 100 |
|  | 100 | 2730 | 11631 | 1.78 | 1.81 | 9256 | 37456 |  | 100 |
|  | 100 | 2892 | 12206 | 1.82 | 1.91 | 9331 | 37146 |  | 100 |
|  | 100 | 2949 | 11868 | 1.87 | 1.82 | 9428 | 38197 |  | 100 |
|  | 100 | 2956 | 12085 | 1.91 | 1.92 | 9315 | 36517 |  | 100 |
|  | 100 | 2779 | 12141 | 1.76 | 1.93 | 9430 | 36225 |  | 100 |
|  | 100 | 2954 | 12038 | 1.84 | 1.85 | 9460 | 37999 |  | 100 |
|  | 100 | 2639 | 12225 | 1.77 | 1.84 | 9017 | 38241 |  | 100 |
|  | 100 | 2877 | 12171 | 1.80 | 1.87 | 9392 | 37981 |  | 100 |
|  | 99  | 3300 | 11572 | 1.92 | 1.84 | 9935 | 37142 |  | 100 |
|  | 100 | 2971 | 12324 | 1.83 | 1.89 | 9528 | 37737 |  | 100 |
|  | 99  | 3159 | 12315 | 1.94 | 1.89 | 9454 | 37269 |  | 100 |
|  | 98  | 2922 | 12857 | 1.83 | 1.92 | 9337 | 38264 |  | 100 |
|  | 100 | 2913 | 11868 | 1.81 | 1.85 | 9293 | 37444 |  | 100 |
|  | 99  | 3044 | 11682 | 1.86 | 1.80 | 9598 | 38023 |  | 100 |
|  | 99  | 3113 | 11319 | 1.88 | 1.79 | 9713 | 37053 |  | 100 |
|  | 99  | 2707 | 11647 | 1.73 | 1.82 | 9286 | 37170 |  | 100 |
|  | 100 | 2770 | 11760 | 1.77 | 1.83 | 9503 | 37307 |  | 100 |
|  | 99  | 3092 | 11030 | 1.87 | 1.74 | 9537 | 37722 |  | 100 |
|  | 100 | 3131 | 10959 | 1.96 | 1.74 | 9245 | 36980 |  | 100 |
|  | 99  | 2887 | 12283 | 1.83 | 1.89 | 9406 | 37823 |  | 100 |
|  | 100 | 3022 | 11941 | 1.84 | 1.82 | 9691 | 38189 |  | 100 |
|  | 100 | 2833 | 11682 | 1.77 | 1.83 | 9601 | 37439 |  | 100 |
|  | 100 | 3100 | 12174 | 1.97 | 1.87 | 9325 | 37511 |  | 100 |
|  | 100 | 2944 | 11939 | 1.83 | 1.86 | 9521 | 37048 |  | 100 |
|  | 100 | 3046 | 12114 | 1.87 | 1.83 | 9532 | 38524 |  | 100 |
|  | 99  | 2832 | 11699 | 1.79 | 1.86 | 9347 | 36780 |  | 100 |
|  | 100 | 3041 | 11805 | 1.87 | 1.84 | 9492 | 37158 |  | 100 |
|  | 100 | 3007 | 11350 | 1.89 | 1.79 | 9260 | 37029 |  | 100 |
|  | 99  | 2972 | 11706 | 1.86 | 1.83 | 9327 | 37475 |  | 100 |
|  | 99  | 2853 | 12240 | 1.80 | 1.88 | 9655 | 37259 |  | 100 |
|  | 100 | 2679 | 11893 | 1.71 | 1.83 | 9435 | 37448 |  | 100 |
|  | 100 | 2804 | 11752 | 1.75 | 1.80 | 9535 | 38104 |  | 100 |
|  | 99  | 2890 | 11499 | 1.78 | 1.83 | 9621 | 36552 |  | 100 |
|  | 99  | 2898 | 11459 | 1.82 | 1.80 | 9434 | 37725 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2896 | 12474 | 1.83 | 1.85 | 9392 | 38892 |  | 100 |
|  | 99  | 2984 | 11098 | 1.91 | 1.78 | 9093 | 36856 |  | 100 |
|  | 100 | 2929 | 12455 | 1.83 | 1.92 | 9559 | 37476 |  | 100 |
|  | 100 | 2846 | 11702 | 1.79 | 1.83 | 9450 | 37104 |  | 100 |
|  | 100 | 2671 | 12701 | 1.75 | 1.90 | 9336 | 38035 |  | 100 |
|  | 100 | 3038 | 11710 | 1.88 | 1.84 | 9461 | 36932 |  | 100 |
|  | 100 | 2857 | 11658 | 1.82 | 1.78 | 9407 | 38269 |  | 100 |
|  | 100 | 3030 | 12126 | 1.84 | 1.89 | 9662 | 36928 |  | 100 |
|  | 100 | 2786 | 12968 | 1.80 | 2.00 | 9198 | 37256 |  | 100 |
|  | 98  | 3140 | 11101 | 1.96 | 1.78 | 9241 | 36881 |  | 100 |
|  | 100 | 2907 | 12103 | 1.85 | 1.83 | 9178 | 38180 |  | 100 |
|  | 99  | 2891 | 12347 | 1.81 | 1.86 | 9405 | 38041 |  | 100 |
|  | 100 | 2915 | 11961 | 1.82 | 1.86 | 9425 | 37473 |  | 100 |
|  | 99  | 3087 | 11697 | 1.90 | 1.82 | 9521 | 37791 |  | 100 |
|  | 99  | 2802 | 11787 | 1.79 | 1.81 | 9266 | 38280 |  | 100 |
|  | 100 | 2775 | 11477 | 1.77 | 1.84 | 9378 | 36576 |  | 100 |
|  | 99  | 2767 | 11936 | 1.73 | 1.85 | 9565 | 37406 |  | 100 |
|  | 97  | 2835 | 11866 | 1.78 | 1.87 | 9367 | 37017 |  | 100 |
|  | 99  | 3006 | 11776 | 1.87 | 1.82 | 9411 | 37812 |  | 100 |
|  | 99  | 2973 | 11759 | 1.82 | 1.83 | 9838 | 37044 |  | 100 |
|  | 100 | 2928 | 12439 | 1.86 | 1.90 | 9301 | 37854 |  | 100 |
|  | 100 | 2783 | 11678 | 1.76 | 1.86 | 9290 | 36631 |  | 100 |
|  | 99  | 2951 | 11596 | 1.80 | 1.83 | 9867 | 36777 |  | 100 |
|  | 99  | 3062 | 11684 | 1.91 | 1.80 | 9286 | 37600 |  | 100 |
|  | 100 | 2872 | 11473 | 1.82 | 1.79 | 9374 | 37432 |  | 100 |
|  | 99  | 3026 | 12335 | 1.85 | 1.89 | 9452 | 37697 |  | 100 |
|  | 98  | 2935 | 11935 | 1.78 | 1.85 | 9789 | 37896 |  | 100 |
|  | 100 | 2649 | 11981 | 1.73 | 1.86 | 9201 | 37277 |  | 100 |
|  | 100 | 2696 | 12225 | 1.78 | 1.88 | 9210 | 37705 |  | 100 |
|  | 100 | 3064 | 11964 | 1.88 | 1.80 | 9620 | 38213 |  | 100 |
|  | 99  | 2907 | 11813 | 1.77 | 1.81 | 9643 | 37800 |  | 100 |
|  | 100 | 2980 | 12340 | 1.90 | 1.88 | 9107 | 38254 |  | 100 |
|  | 98  | 2848 | 11441 | 1.80 | 1.83 | 9342 | 36760 |  | 100 |
|  | 98  | 3022 | 11843 | 1.85 | 1.84 | 9650 | 37210 |  | 100 |
|  | 98  | 2834 | 12092 | 1.81 | 1.87 | 9479 | 37590 |  | 100 |
|  | 99  | 2969 | 11872 | 1.84 | 1.85 | 9603 | 37517 |  | 100 |
|  | 99  | 2855 | 11924 | 1.80 | 1.87 | 9444 | 36654 |  | 100 |
|  | 99  | 2888 | 11021 | 1.79 | 1.75 | 9565 | 37047 |  | 100 |
|  | 98  | 2750 | 12691 | 1.79 | 1.89 | 9145 | 38990 |  | 100 |
|  | 98  | 2887 | 11607 | 1.82 | 1.82 | 9439 | 37255 |  | 100 |
|  | 99  | 2794 | 12006 | 1.79 | 1.84 | 9299 | 37616 |  | 100 |
|  | 99  | 2818 | 12427 | 1.82 | 1.88 | 9425 | 38370 |  | 100 |
|  | 99  | 2880 | 11578 | 1.79 | 1.81 | 9495 | 36626 |  | 100 |
|  | 98  | 3006 | 11085 | 1.85 | 1.76 | 9752 | 37144 |  | 100 |
|  | 99  | 2876 | 11667 | 1.79 | 1.79 | 9500 | 37890 |  | 100 |
|  | 100 | 2866 | 12120 | 1.80 | 1.89 | 9488 | 37207 |  | 100 |
|  | 98  | 2962 | 11982 | 1.80 | 1.87 | 9737 | 37568 |  | 100 |
|  | 100 | 2890 | 12607 | 1.80 | 1.91 | 9628 | 38050 |  | 100 |
|  | 100 | 3119 | 11451 | 1.92 | 1.75 | 9598 | 38309 |  | 100 |
|  | 100 | 2545 | 11843 | 1.66 | 1.90 | 9331 | 36281 |  | 100 |
|  | 99  | 2896 | 11278 | 1.78 | 1.80 | 9674 | 36885 |  | 100 |
|  | 100 | 2999 | 11870 | 1.82 | 1.81 | 9640 | 38206 |  | 100 |
|  | 100 | 2941 | 11854 | 1.85 | 1.89 | 9417 | 36079 |  | 100 |
|  | 98  | 3024 | 11531 | 1.84 | 1.81 | 9640 | 37156 |  | 100 |
|  | 100 | 2764 | 11642 | 1.78 | 1.81 | 9465 | 37227 |  | 100 |
|  | 99  | 2828 | 12262 | 1.76 | 1.88 | 9588 | 37303 |  | 100 |
|  | 98  | 2998 | 11157 | 1.81 | 1.79 | 9710 | 37167 |  | 100 |
|  | 100 | 2964 | 12188 | 1.86 | 1.87 | 9599 | 37795 |  | 100 |
|  | 97  | 2967 | 11396 | 1.86 | 1.79 | 9395 | 37368 |  | 100 |
|  | 98  | 2799 | 12280 | 1.78 | 1.90 | 9316 | 37086 |  | 100 |
|  | 100 | 2845 | 11900 | 1.79 | 1.87 | 9348 | 36863 |  | 100 |
|  | 99  | 2701 | 11738 | 1.72 | 1.82 | 9570 | 37365 |  | 100 |
|  | 99  | 3018 | 11953 | 1.92 | 1.87 | 9379 | 37438 |  | 100 |
|  | 99  | 2813 | 12032 | 1.75 | 1.90 | 9606 | 36428 |  | 100 |
|  | 100 | 2953 | 11869 | 1.85 | 1.81 | 9313 | 38273 |  | 100 |
|  | 100 | 2996 | 12197 | 1.87 | 1.86 | 9537 | 37359 |  | 100 |
|  | 100 | 2773 | 11414 | 1.74 | 1.79 | 9485 | 37720 |  | 100 |
|  | 100 | 2903 | 11911 | 1.79 | 1.86 | 9662 | 37024 |  | 100 |
|  | 100 | 2869 | 11543 | 1.81 | 1.77 | 9460 | 37981 |  | 100 |
|  | 98  | 2860 | 12240 | 1.83 | 1.88 | 9280 | 37591 |  | 100 |
|  | 99  | 2851 | 12224 | 1.78 | 1.88 | 9443 | 37683 |  | 100 |
|  | 100 | 2942 | 11963 | 1.81 | 1.84 | 9556 | 37891 |  | 100 |
|  | 100 | 3029 | 11747 | 1.83 | 1.85 | 9866 | 37085 |  | 100 |
|  | 99  | 2982 | 12028 | 1.85 | 1.86 | 9451 | 37476 |  | 100 |
|  | 99  | 2914 | 12103 | 1.84 | 1.87 | 9201 | 37080 |  | 100 |
|  | 99  | 2887 | 12042 | 1.80 | 1.84 | 9550 | 38127 |  | 100 |
|  | 100 | 2934 | 11572 | 1.82 | 1.81 | 9395 | 37656 |  | 100 |
|  | 98  | 2865 | 11013 | 1.80 | 1.78 | 9415 | 36702 |  | 100 |
|  | 100 | 2752 | 12285 | 1.75 | 1.90 | 9327 | 37231 |  | 100 |
|  | 98  | 3208 | 12016 | 1.91 | 1.87 | 9814 | 37029 |  | 100 |
|  | 99  | 2915 | 11466 | 1.85 | 1.82 | 9369 | 36612 |  | 100 |
|  | 100 | 2772 | 11858 | 1.80 | 1.83 | 9117 | 37454 |  | 100 |
|  | 99  | 2837 | 11689 | 1.78 | 1.81 | 9482 | 37936 |  | 100 |
|  | 99  | 3065 | 11115 | 1.87 | 1.75 | 9512 | 37069 |  | 100 |
|  | 99  | 2723 | 11906 | 1.71 | 1.84 | 9682 | 37219 |  | 100 |
|  | 100 | 2866 | 11969 | 1.83 | 1.82 | 9259 | 38099 |  | 100 |
|  | 98  | 2821 | 11278 | 1.73 | 1.79 | 9663 | 36570 |  | 100 |
|  | 99  | 2997 | 11630 | 1.87 | 1.78 | 9367 | 38319 |  | 100 |
|  | 99  | 2877 | 11599 | 1.80 | 1.83 | 9470 | 36952 |  | 100 |
|  | 99  | 2665 | 11909 | 1.72 | 1.84 | 9305 | 37668 |  | 100 |
|  | 100 | 2915 | 11813 | 1.78 | 1.85 | 9713 | 36978 |  | 100 |
|  | 97  | 3344 | 11552 | 2.02 | 1.82 | 9512 | 36965 |  | 100 |
|  | 99  | 2858 | 12050 | 1.81 | 1.83 | 9285 | 37882 |  | 100 |
|  | 100 | 3065 | 11836 | 1.88 | 1.83 | 9595 | 37505 |  | 100 |
|  | 97  | 2872 | 11982 | 1.81 | 1.84 | 9392 | 37670 |  | 100 |



|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2814 | 11919 | 1.82 | 1.86 | 9252 | 37505 |  | 100 |
|  | 99  | 2859 | 11675 | 1.76 | 1.79 | 9570 | 37852 |  | 100 |
|  | 100 | 2902 | 11900 | 1.84 | 1.84 | 9454 | 38250 |  | 100 |
|  | 100 | 2965 | 11866 | 1.86 | 1.84 | 9550 | 37693 |  | 100 |
|  | 98  | 2920 | 11937 | 1.82 | 1.89 | 9439 | 36675 |  | 100 |
|  | 100 | 2781 | 12445 | 1.79 | 1.88 | 9194 | 38071 |  | 100 |
|  | 98  | 2879 | 11644 | 1.78 | 1.85 | 9396 | 36528 |  | 100 |
|  | 98  | 2868 | 11530 | 1.79 | 1.81 | 9501 | 37041 |  | 100 |
|  | 100 | 2858 | 11287 | 1.81 | 1.75 | 9321 | 37574 |  | 100 |
|  | 100 | 2878 | 12023 | 1.81 | 1.84 | 9375 | 37526 |  | 100 |
|  | 99  | 2919 | 11999 | 1.81 | 1.88 | 9420 | 36540 |  | 100 |
|  | 98  | 3170 | 11748 | 1.95 | 1.81 | 9412 | 37825 |  | 100 |
|  | 100 | 2996 | 11927 | 1.85 | 1.83 | 9473 | 37915 |  | 100 |
|  | 100 | 2735 | 12231 | 1.76 | 1.91 | 9267 | 36487 |  | 100 |
|  | 100 | 2832 | 11726 | 1.81 | 1.84 | 9305 | 36689 |  | 100 |
|  | 100 | 2832 | 12285 | 1.79 | 1.88 | 9431 | 37992 |  | 100 |
|  | 99  | 3032 | 12051 | 1.87 | 1.85 | 9519 | 37672 |  | 100 |
|  | 100 | 2744 | 11751 | 1.78 | 1.85 | 9201 | 36509 |  | 100 |
|  | 99  | 3010 | 11469 | 1.87 | 1.83 | 9421 | 36423 |  | 100 |
|  | 100 | 2789 | 12543 | 1.80 | 1.85 | 9224 | 38735 |  | 100 |
|  | 100 | 2931 | 12368 | 1.83 | 1.89 | 9552 | 37384 |  | 100 |
|  | 98  | 3022 | 11575 | 1.89 | 1.80 | 9334 | 37510 |  | 100 |
|  | 100 | 2867 | 11238 | 1.79 | 1.79 | 9481 | 36930 |  | 100 |
|  | 99  | 3129 | 12379 | 1.89 | 1.89 | 9614 | 37882 |  | 100 |
|  | 100 | 2763 | 12105 | 1.75 | 1.83 | 9470 | 38243 |  | 100 |
|  | 100 | 2977 | 11513 | 1.84 | 1.81 | 9538 | 37542 |  | 100 |
|  | 100 | 2720 | 11510 | 1.72 | 1.81 | 9635 | 37261 |  | 100 |
|  | 99  | 2769 | 11327 | 1.80 | 1.75 | 9108 | 38116 |  | 100 |
|  | 99  | 2943 | 12348 | 1.85 | 1.94 | 9295 | 37197 |  | 100 |
|  | 99  | 2838 | 11625 | 1.81 | 1.84 | 9491 | 36768 |  | 100 |
|  | 99  | 2964 | 11872 | 1.86 | 1.86 | 9296 | 36585 |  | 100 |
|  | 98  | 3082 | 11634 | 1.92 | 1.77 | 9416 | 38089 |  | 100 |
|  | 98  | 2791 | 11500 | 1.75 | 1.83 | 9465 | 36771 |  | 100 |
|  | 100 | 2977 | 11675 | 1.85 | 1.82 | 9584 | 36946 |  | 100 |
|  | 99  | 3103 | 11933 | 1.90 | 1.85 | 9802 | 37315 |  | 100 |
|  | 100 | 2955 | 11933 | 1.87 | 1.83 | 9609 | 38456 |  | 100 |
|  | 99  | 3055 | 11552 | 1.84 | 1.83 | 9862 | 36925 |  | 100 |
|  | 100 | 2674 | 12056 | 1.77 | 1.88 | 9100 | 36758 |  | 100 |
|  | 98  | 3013 | 11827 | 1.83 | 1.85 | 9793 | 37122 |  | 100 |
|  | 99  | 3165 | 11120 | 1.99 | 1.77 | 9318 | 37110 |  | 100 |
|  | 99  | 2719 | 11609 | 1.78 | 1.80 | 9237 | 37722 |  | 100 |
|  | 100 | 2972 | 11852 | 1.83 | 1.86 | 9556 | 37471 |  | 100 |
|  | 100 | 2821 | 10928 | 1.76 | 1.76 | 9554 | 36608 |  | 100 |
|  | 97  | 2999 | 12011 | 1.92 | 1.83 | 9144 | 37757 |  | 100 |
|  | 97  | 2865 | 11639 | 1.75 | 1.85 | 9700 | 36858 |  | 100 |
|  | 99  | 3105 | 12505 | 1.86 | 1.92 | 9792 | 37457 |  | 100 |
|  | 99  | 2995 | 12352 | 1.84 | 1.92 | 9613 | 36992 |  | 100 |
|  | 100 | 2812 | 11090 | 1.77 | 1.74 | 9380 | 37315 |  | 100 |
|  | 99  | 2914 | 12450 | 1.82 | 1.87 | 9504 | 38359 |  | 100 |
|  | 100 | 2993 | 11723 | 1.83 | 1.87 | 9675 | 36524 |  | 100 |
|  | 98  | 3030 | 12068 | 1.86 | 1.86 | 9838 | 37668 |  | 100 |
|  | 100 | 3066 | 11219 | 1.92 | 1.72 | 9486 | 38637 |  | 100 |
|  | 100 | 2819 | 11646 | 1.78 | 1.82 | 9375 | 36987 |  | 100 |
|  | 100 | 2890 | 11793 | 1.81 | 1.81 | 9512 | 37805 |  | 100 |
|  | 98  | 2933 | 11961 | 1.84 | 1.88 | 9588 | 36667 |  | 100 |
|  | 100 | 3005 | 11883 | 1.90 | 1.80 | 9291 | 38477 |  | 100 |
|  | 100 | 2893 | 11979 | 1.81 | 1.87 | 9379 | 37167 |  | 100 |
|  | 98  | 2882 | 11411 | 1.85 | 1.80 | 9180 | 36541 |  | 100 |
|  | 99  | 2934 | 11835 | 1.80 | 1.82 | 9577 | 37885 |  | 100 |
|  | 99  | 2928 | 11476 | 1.81 | 1.79 | 9553 | 37937 |  | 100 |
|  | 100 | 2890 | 12006 | 1.79 | 1.87 | 9615 | 37076 |  | 100 |
|  | 99  | 2900 | 12152 | 1.84 | 1.89 | 9244 | 37406 |  | 100 |
|  | 98  | 2802 | 12209 | 1.76 | 1.89 | 9376 | 36784 |  | 100 |
|  | 97  | 3064 | 11517 | 1.89 | 1.81 | 9326 | 37296 |  | 100 |
|  | 99  | 2999 | 11823 | 1.85 | 1.85 | 9663 | 36878 |  | 100 |
|  | 99  | 2858 | 11713 | 1.82 | 1.78 | 9355 | 38498 |  | 100 |
|  | 99  | 3048 | 12200 | 1.87 | 1.84 | 9601 | 38068 |  | 100 |
|  | 99  | 2767 | 12035 | 1.76 | 1.88 | 9371 | 37021 |  | 100 |
|  | 100 | 2870 | 11573 | 1.76 | 1.82 | 9720 | 37001 |  | 100 |
|  | 100 | 3010 | 11411 | 1.88 | 1.78 | 9442 | 37662 |  | 100 |
|  | 98  | 3340 | 11418 | 1.97 | 1.82 | 9736 | 36728 |  | 100 |
|  | 99  | 2737 | 12016 | 1.80 | 1.88 | 9156 | 37074 |  | 100 |
|  | 100 | 2882 | 12542 | 1.78 | 1.88 | 9678 | 38594 |  | 100 |
|  | 99  | 2906 | 12904 | 1.81 | 1.89 | 9454 | 39010 |  | 100 |
|  | 99  | 2831 | 11568 | 1.84 | 1.78 | 9074 | 38243 |  | 100 |
|  | 100 | 2785 | 11922 | 1.75 | 1.88 | 9457 | 36797 |  | 100 |
|  | 98  | 2905 | 11089 | 1.80 | 1.77 | 9603 | 36271 |  | 100 |
|  | 100 | 2876 | 11727 | 1.83 | 1.81 | 9308 | 38020 |  | 100 |
|  | 98  | 2756 | 11347 | 1.78 | 1.80 | 9283 | 36917 |  | 100 |
|  | 99  | 3109 | 11561 | 1.89 | 1.80 | 9699 | 37360 |  | 100 |
|  | 98  | 2957 | 11681 | 1.89 | 1.82 | 9535 | 36858 |  | 100 |
|  | 99  | 2922 | 11898 | 1.85 | 1.82 | 9455 | 37855 |  | 100 |
|  | 99  | 2780 | 11995 | 1.79 | 1.83 | 9268 | 37984 |  | 100 |
|  | 99  | 2709 | 11768 | 1.71 | 1.85 | 9430 | 37311 |  | 100 |
|  | 99  | 3102 | 12213 | 1.94 | 1.88 | 9425 | 37448 |  | 100 |
|  | 99  | 2821 | 11967 | 1.77 | 1.83 | 9487 | 37691 |  | 100 |
|  | 99  | 2948 | 12306 | 1.87 | 1.88 | 9046 | 38039 |  | 100 |
|  | 99  | 2767 | 11776 | 1.73 | 1.90 | 9499 | 36723 |  | 100 |
|  | 100 | 2737 | 12115 | 1.72 | 1.85 | 9637 | 37939 |  | 100 |
|  | 100 | 2768 | 11802 | 1.78 | 1.81 | 9295 | 38098 |  | 100 |
|  | 99  | 2749 | 12448 | 1.74 | 1.90 | 9469 | 37993 |  | 100 |
|  | 99  | 2849 | 11679 | 1.84 | 1.82 | 9090 | 37648 |  | 100 |
|  | 98  | 2879 | 11801 | 1.79 | 1.86 | 9593 | 36843 |  | 100 |
|  | 100 | 3078 | 11872 | 1.94 | 1.82 | 9444 | 38214 |  | 100 |
|  | 99  | 2911 | 11557 | 1.84 | 1.84 | 9373 | 36956 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 98  | 3054 | 11260 | 1.84 | 1.76 | 9731 | 37486 |  | 100 |
|  | 99  | 3186 | 12378 | 1.93 | 1.84 | 9524 | 38772 |  | 100 |
|  | 99  | 2779 | 11785 | 1.77 | 1.84 | 9266 | 36936 |  | 100 |
|  | 99  | 2894 | 12259 | 1.78 | 1.91 | 9643 | 36809 |  | 100 |
|  | 99  | 3209 | 10819 | 1.90 | 1.70 | 9839 | 37572 |  | 100 |
|  | 99  | 2906 | 12170 | 1.83 | 1.86 | 9341 | 37952 |  | 100 |
|  | 100 | 2773 | 11492 | 1.74 | 1.83 | 9481 | 36586 |  | 100 |
|  | 100 | 2680 | 11244 | 1.69 | 1.75 | 9573 | 37464 |  | 100 |
|  | 100 | 3045 | 11800 | 1.90 | 1.84 | 9558 | 37431 |  | 100 |
|  | 99  | 2747 | 11361 | 1.72 | 1.80 | 9544 | 36981 |  | 100 |
|  | 99  | 2739 | 11969 | 1.74 | 1.87 | 9461 | 37401 |  | 100 |
|  | 98  | 2882 | 11970 | 1.81 | 1.82 | 9596 | 38250 |  | 100 |
|  | 100 | 3029 | 10944 | 1.84 | 1.76 | 9835 | 36402 |  | 100 |
|  | 100 | 2819 | 12185 | 1.82 | 1.88 | 9210 | 38406 |  | 100 |
|  | 99  | 2732 | 11802 | 1.77 | 1.82 | 9348 | 37935 |  | 100 |
|  | 100 | 2713 | 11524 | 1.72 | 1.82 | 9413 | 37311 |  | 100 |
|  | 99  | 2795 | 12000 | 1.74 | 1.88 | 9714 | 36743 |  | 100 |
|  | 100 | 2882 | 11887 | 1.81 | 1.85 | 9403 | 37427 |  | 100 |
|  | 99  | 3017 | 11320 | 1.87 | 1.77 | 9576 | 37572 |  | 100 |
|  | 98  | 2974 | 11423 | 1.83 | 1.79 | 9568 | 37494 |  | 100 |
|  | 99  | 2967 | 11738 | 1.86 | 1.83 | 9495 | 37786 |  | 100 |
|  | 100 | 3230 | 11834 | 1.94 | 1.82 | 9755 | 37878 |  | 100 |
|  | 99  | 2943 | 11182 | 1.82 | 1.77 | 9784 | 37086 |  | 100 |
|  | 99  | 2924 | 11624 | 1.85 | 1.83 | 9361 | 37560 |  | 100 |
|  | 99  | 2669 | 11540 | 1.70 | 1.80 | 9396 | 37306 |  | 100 |
|  | 99  | 3193 | 11914 | 1.89 | 1.88 | 9928 | 36421 |  | 100 |
|  | 99  | 2965 | 11311 | 1.90 | 1.76 | 9195 | 37805 |  | 100 |
|  | 100 | 2897 | 10833 | 1.79 | 1.72 | 9637 | 36977 |  | 100 |
|  | 100 | 3014 | 12766 | 1.85 | 1.95 | 9456 | 37949 |  | 100 |
|  | 99  | 2943 | 12472 | 1.86 | 1.88 | 9280 | 38296 |  | 100 |
|  | 99  | 3019 | 12059 | 1.85 | 1.86 | 9475 | 37348 |  | 100 |
|  | 99  | 2830 | 11725 | 1.80 | 1.82 | 9293 | 37814 |  | 100 |
|  | 100 | 2796 | 11998 | 1.82 | 1.83 | 9073 | 37776 |  | 100 |
|  | 99  | 2762 | 11813 | 1.75 | 1.84 | 9421 | 37313 |  | 100 |
|  | 99  | 3088 | 12047 | 1.85 | 1.87 | 9858 | 37161 |  | 100 |
|  | 99  | 2950 | 12243 | 1.80 | 1.89 | 9706 | 37955 |  | 100 |
|  | 100 | 2884 | 11577 | 1.83 | 1.77 | 9360 | 38387 |  | 100 |
|  | 100 | 2924 | 12371 | 1.80 | 1.91 | 9762 | 37415 |  | 100 |
|  | 99  | 3050 | 11895 | 1.90 | 1.83 | 9375 | 37157 |  | 100 |
|  | 100 | 2829 | 11791 | 1.84 | 1.80 | 9128 | 38209 |  | 100 |
|  | 99  | 2964 | 11422 | 1.79 | 1.81 | 9718 | 36737 |  | 100 |
|  | 99  | 2931 | 11620 | 1.84 | 1.82 | 9492 | 36892 |  | 100 |
|  | 100 | 3032 | 11389 | 1.84 | 1.82 | 9651 | 36348 |  | 100 |
|  | 100 | 2911 | 11256 | 1.82 | 1.78 | 9419 | 36848 |  | 100 |
|  | 100 | 2854 | 12366 | 1.80 | 1.89 | 9395 | 37746 |  | 100 |
|  | 100 | 2717 | 11289 | 1.71 | 1.81 | 9622 | 36288 |  | 100 |
|  | 100 | 3009 | 11493 | 1.87 | 1.77 | 9450 | 37926 |  | 100 |
|  | 97  | 2831 | 11614 | 1.76 | 1.81 | 9447 | 37591 |  | 100 |
|  | 100 | 2994 | 13142 | 1.85 | 1.93 | 9508 | 39173 |  | 100 |
|  | 99  | 2739 | 11721 | 1.80 | 1.83 | 9220 | 36870 |  | 100 |
|  | 99  | 2857 | 11598 | 1.78 | 1.84 | 9580 | 36756 |  | 100 |
|  | 98  | 3006 | 11324 | 1.87 | 1.76 | 9444 | 37411 |  | 100 |
|  | 100 | 2791 | 11987 | 1.82 | 1.85 | 9153 | 37567 |  | 100 |
|  | 99  | 2754 | 12197 | 1.73 | 1.87 | 9413 | 37421 |  | 100 |
|  | 99  | 2973 | 12355 | 1.85 | 1.92 | 9545 | 37392 |  | 100 |
|  | 99  | 2934 | 11096 | 1.83 | 1.80 | 9493 | 36005 |  | 100 |
|  | 100 | 3027 | 11766 | 1.89 | 1.80 | 9543 | 38162 |  | 100 |
|  | 100 | 2704 | 12037 | 1.68 | 1.84 | 9725 | 38050 |  | 100 |
|  | 98  | 3260 | 11141 | 1.94 | 1.74 | 9878 | 38105 |  | 100 |
|  | 100 | 3077 | 12295 | 1.86 | 1.86 | 9839 | 38036 |  | 100 |
|  | 99  | 2829 | 11778 | 1.77 | 1.85 | 9429 | 37026 |  | 100 |
|  | 100 | 2735 | 11107 | 1.72 | 1.77 | 9516 | 37124 |  | 100 |
|  | 99  | 2814 | 11485 | 1.80 | 1.78 | 9470 | 38425 |  | 100 |
|  | 99  | 3222 | 11938 | 1.96 | 1.85 | 9568 | 37560 |  | 100 |
|  | 98  | 3049 | 11316 | 1.94 | 1.79 | 9177 | 36795 |  | 100 |
|  | 100 | 2984 | 11359 | 1.81 | 1.80 | 9716 | 36968 |  | 100 |
|  | 99  | 2843 | 12060 | 1.78 | 1.85 | 9474 | 37924 |  | 100 |
|  | 100 | 2876 | 11693 | 1.86 | 1.80 | 9135 | 37949 |  | 100 |
|  | 100 | 2902 | 11512 | 1.83 | 1.81 | 9426 | 37224 |  | 100 |
|  | 100 | 2857 | 11445 | 1.75 | 1.82 | 9645 | 36730 |  | 100 |
|  | 100 | 3098 | 12320 | 1.85 | 1.89 | 9848 | 37497 |  | 100 |
|  | 100 | 2892 | 12091 | 1.84 | 1.92 | 9306 | 36504 |  | 100 |
|  | 99  | 2830 | 12571 | 1.77 | 1.90 | 9666 | 38149 |  | 100 |
|  | 100 | 3103 | 11588 | 1.87 | 1.79 | 9801 | 37351 |  | 100 |
|  | 99  | 2822 | 11509 | 1.85 | 1.80 | 9017 | 37205 |  | 100 |
|  | 99  | 2869 | 11456 | 1.79 | 1.78 | 9524 | 37668 |  | 100 |
|  | 99  | 2878 | 11736 | 1.79 | 1.81 | 9559 | 37566 |  | 100 |
|  | 98  | 2986 | 12208 | 1.87 | 1.85 | 9431 | 38355 |  | 100 |
|  | 100 | 2909 | 11827 | 1.83 | 1.87 | 9466 | 36283 |  | 100 |
|  | 100 | 2707 | 11743 | 1.78 | 1.82 | 9303 | 37479 |  | 100 |
|  | 100 | 2886 | 11289 | 1.81 | 1.75 | 9560 | 38269 |  | 100 |
|  | 100 | 2746 | 12694 | 1.76 | 1.93 | 9344 | 37850 |  | 100 |
|  | 100 | 2748 | 11460 | 1.78 | 1.84 | 9221 | 36466 |  | 100 |
|  | 100 | 2867 | 11804 | 1.78 | 1.81 | 9606 | 38223 |  | 100 |
|  | 97  | 2930 | 11664 | 1.78 | 1.81 | 9780 | 37640 |  | 100 |
|  | 97  | 2915 | 12307 | 1.87 | 1.88 | 9224 | 38255 |  | 100 |
|  | 97  | 2835 | 11080 | 1.84 | 1.76 | 9010 | 36668 |  | 100 |
|  | 99  | 3054 | 11617 | 1.91 | 1.75 | 9417 | 38910 |  | 100 |
|  | 100 | 2815 | 12311 | 1.81 | 1.93 | 9236 | 36776 |  | 100 |
|  | 99  | 2926 | 11739 | 1.85 | 1.81 | 9471 | 37771 |  | 100 |
|  | 100 | 2861 | 11647 | 1.81 | 1.80 | 9340 | 37497 |  | 100 |
|  | 99  | 3053 | 11750 | 1.90 | 1.75 | 9448 | 39028 |  | 100 |
|  | 100 | 2981 | 12070 | 1.90 | 1.89 | 9344 | 36891 |  | 100 |
|  | 100 | 2897 | 11785 | 1.85 | 1.87 | 9372 | 36468 |  | 100 |
|  | 100 | 2865 | 11222 | 1.84 | 1.73 | 9489 | 38103 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 3021 | 12443 | 1.94 | 1.92 | 9031 | 37827 |  | 100 |
|  | 98  | 2754 | 11614 | 1.79 | 1.84 | 9233 | 36910 |  | 100 |
|  | 100 | 2828 | 12381 | 1.75 | 1.85 | 9650 | 38691 |  | 100 |
|  | 99  | 2855 | 11858 | 1.80 | 1.79 | 9501 | 38777 |  | 100 |
|  | 100 | 2850 | 11627 | 1.82 | 1.83 | 9392 | 36803 |  | 100 |
|  | 100 | 2884 | 12515 | 1.80 | 1.87 | 9607 | 38548 |  | 100 |
|  | 99  | 2749 | 11852 | 1.76 | 1.82 | 9408 | 37603 |  | 100 |
|  | 100 | 2802 | 11817 | 1.82 | 1.83 | 9516 | 37493 |  | 100 |
|  | 97  | 2967 | 11882 | 1.83 | 1.82 | 9534 | 38423 |  | 100 |
|  | 100 | 3046 | 12292 | 1.91 | 1.89 | 9349 | 37493 |  | 100 |
|  | 100 | 2729 | 11397 | 1.72 | 1.83 | 9425 | 36073 |  | 100 |
|  | 99  | 2954 | 11062 | 1.81 | 1.73 | 9677 | 37514 |  | 100 |
|  | 99  | 3224 | 11804 | 1.89 | 1.80 | 9982 | 38088 |  | 100 |
|  | 99  | 2915 | 12286 | 1.85 | 1.89 | 9094 | 38035 |  | 100 |
|  | 99  | 2931 | 10993 | 1.82 | 1.75 | 9477 | 37045 |  | 100 |
|  | 97  | 2947 | 11540 | 1.85 | 1.84 | 9273 | 36686 |  | 100 |
|  | 100 | 2764 | 11436 | 1.75 | 1.77 | 9704 | 37531 |  | 100 |
|  | 100 | 2690 | 11882 | 1.71 | 1.80 | 9476 | 38306 |  | 100 |
|  | 100 | 2981 | 12303 | 1.85 | 1.87 | 9538 | 37732 |  | 100 |
|  | 99  | 2897 | 10852 | 1.83 | 1.76 | 9222 | 36086 |  | 100 |
|  | 100 | 2743 | 11643 | 1.73 | 1.78 | 9512 | 38301 |  | 100 |
|  | 100 | 2849 | 11817 | 1.80 | 1.83 | 9382 | 37390 |  | 100 |
|  | 100 | 2779 | 11817 | 1.79 | 1.83 | 9613 | 37721 |  | 100 |
|  | 98  | 2886 | 11210 | 1.79 | 1.77 | 9728 | 37421 |  | 100 |
|  | 100 | 2902 | 11595 | 1.81 | 1.88 | 9445 | 36113 |  | 100 |
|  | 99  | 2880 | 11055 | 1.81 | 1.79 | 9346 | 36441 |  | 100 |
|  | 99  | 2987 | 11748 | 1.83 | 1.79 | 9594 | 38700 |  | 100 |
|  | 99  | 3021 | 11631 | 1.89 | 1.85 | 9428 | 36601 |  | 100 |
|  | 100 | 2700 | 12215 | 1.77 | 1.95 | 9246 | 35859 |  | 100 |
|  | 100 | 2696 | 11155 | 1.71 | 1.73 | 9630 | 37484 |  | 100 |
|  | 100 | 3014 | 11930 | 1.82 | 1.81 | 9744 | 38381 |  | 100 |
|  | 100 | 2887 | 12817 | 1.85 | 1.93 | 9370 | 38526 |  | 100 |
|  | 99  | 2784 | 11766 | 1.80 | 1.83 | 9084 | 37461 |  | 100 |
|  | 100 | 2738 | 12117 | 1.73 | 1.85 | 9512 | 38084 |  | 100 |
|  | 99  | 2731 | 12439 | 1.72 | 1.88 | 9440 | 38991 |  | 100 |
|  | 98  | 2904 | 12010 | 1.84 | 1.90 | 9246 | 36592 |  | 100 |
|  | 100 | 2932 | 11688 | 1.84 | 1.82 | 9501 | 37547 |  | 100 |
|  | 97  | 3016 | 12148 | 1.87 | 1.90 | 9416 | 37008 |  | 100 |
|  | 99  | 3046 | 11647 | 1.89 | 1.79 | 9327 | 37713 |  | 100 |
|  | 100 | 2849 | 12190 | 1.83 | 1.85 | 9295 | 37757 |  | 100 |
|  | 100 | 2933 | 10669 | 1.76 | 1.72 | 9847 | 36718 |  | 100 |
|  | 99  | 2950 | 11876 | 1.89 | 1.89 | 9222 | 36516 |  | 100 |
|  | 100 | 2982 | 11502 | 1.85 | 1.80 | 9422 | 37486 |  | 100 |
|  | 100 | 2826 | 12530 | 1.77 | 1.85 | 9447 | 39492 |  | 100 |
|  | 99  | 2950 | 12996 | 1.87 | 1.98 | 9261 | 37707 |  | 100 |
|  | 100 | 2603 | 11768 | 1.72 | 1.85 | 9082 | 36605 |  | 100 |
|  | 100 | 2824 | 12034 | 1.78 | 1.84 | 9404 | 38034 |  | 100 |
|  | 98  | 3091 | 11569 | 1.99 | 1.80 | 9090 | 37148 |  | 100 |
|  | 100 | 2777 | 11895 | 1.78 | 1.87 | 9217 | 36818 |  | 100 |
|  | 99  | 2836 | 12544 | 1.75 | 1.89 | 9670 | 38121 |  | 100 |
|  | 100 | 2965 | 12428 | 1.82 | 1.93 | 9693 | 37080 |  | 100 |
|  | 99  | 3067 | 11638 | 1.90 | 1.85 | 9413 | 36529 |  | 100 |
|  | 100 | 2776 | 11657 | 1.73 | 1.81 | 9552 | 37704 |  | 100 |
|  | 99  | 2962 | 12148 | 1.81 | 1.87 | 9636 | 37518 |  | 100 |
|  | 99  | 3064 | 11475 | 1.90 | 1.82 | 9410 | 36660 |  | 100 |
|  | 100 | 2916 | 11909 | 1.84 | 1.83 | 9440 | 37675 |  | 100 |
|  | 98  | 2950 | 11456 | 1.84 | 1.81 | 9624 | 37057 |  | 100 |
|  | 100 | 3185 | 11851 | 1.92 | 1.86 | 9545 | 36767 |  | 100 |
|  | 100 | 2811 | 11852 | 1.78 | 1.88 | 9392 | 36173 |  | 100 |
|  | 99  | 2793 | 12291 | 1.76 | 1.86 | 9321 | 38482 |  | 100 |
|  | 100 | 2879 | 11995 | 1.86 | 1.84 | 9082 | 38050 |  | 100 |
|  | 100 | 2876 | 11699 | 1.86 | 1.87 | 9128 | 36415 |  | 100 |
|  | 100 | 2896 | 11516 | 1.80 | 1.80 | 9546 | 37105 |  | 100 |
|  | 100 | 2879 | 11923 | 1.82 | 1.80 | 9378 | 38724 |  | 100 |
|  | 98  | 2677 | 12073 | 1.77 | 1.89 | 9006 | 37116 |  | 100 |
|  | 100 | 2980 | 11600 | 1.91 | 1.78 | 9232 | 37932 |  | 100 |
|  | 99  | 2796 | 11858 | 1.77 | 1.79 | 9323 | 38707 |  | 100 |
|  | 99  | 2952 | 11836 | 1.78 | 1.84 | 9869 | 37376 |  | 100 |
|  | 99  | 2830 | 11371 | 1.84 | 1.78 | 9082 | 37512 |  | 100 |
|  | 99  | 2947 | 11847 | 1.86 | 1.81 | 9547 | 38581 |  | 100 |
|  | 100 | 2695 | 12085 | 1.74 | 1.82 | 9255 | 38195 |  | 100 |
|  | 100 | 3080 | 11581 | 1.88 | 1.82 | 9559 | 37322 |  | 100 |
|  | 100 | 2775 | 11358 | 1.80 | 1.81 | 9172 | 36749 |  | 100 |
|  | 98  | 3168 | 11977 | 1.90 | 1.81 | 9759 | 38273 |  | 100 |
|  | 99  | 3005 | 12319 | 1.83 | 1.91 | 9614 | 37342 |  | 100 |
|  | 100 | 2781 | 12088 | 1.78 | 1.89 | 9355 | 37153 |  | 100 |
|  | 98  | 2818 | 11340 | 1.78 | 1.78 | 9469 | 37256 |  | 100 |
|  | 100 | 3002 | 11901 | 1.85 | 1.83 | 9508 | 38252 |  | 100 |
|  | 100 | 3083 | 12241 | 1.92 | 1.86 | 9479 | 37923 |  | 100 |
|  | 99  | 3016 | 11734 | 1.87 | 1.89 | 9480 | 35919 |  | 100 |
|  | 98  | 2829 | 11470 | 1.85 | 1.89 | 9042 | 35359 |  | 100 |
|  | 100 | 2755 | 11103 | 1.76 | 1.76 | 9600 | 37006 |  | 100 |
|  | 99  | 3063 | 11427 | 1.88 | 1.74 | 9656 | 38799 |  | 100 |
|  | 100 | 3000 | 12770 | 1.86 | 1.93 | 9607 | 37800 |  | 100 |
|  | 98  | 2762 | 11882 | 1.75 | 1.86 | 9322 | 37305 |  | 100 |
|  | 100 | 2977 | 11648 | 1.86 | 1.79 | 9653 | 38020 |  | 100 |
|  | 100 | 2972 | 11639 | 1.86 | 1.78 | 9411 | 38210 |  | 100 |
|  | 99  | 2859 | 11678 | 1.80 | 1.81 | 9383 | 37154 |  | 100 |
|  | 100 | 3160 | 11573 | 1.90 | 1.79 | 9710 | 37875 |  | 100 |
|  | 100 | 3080 | 12220 | 1.88 | 1.90 | 9399 | 36661 |  | 100 |
|  | 100 | 2881 | 11884 | 1.83 | 1.87 | 9310 | 36434 |  | 100 |
|  | 99  | 2786 | 12388 | 1.75 | 1.88 | 9490 | 38193 |  | 100 |
|  | 98  | 3195 | 12010 | 1.89 | 1.84 | 9818 | 37989 |  | 100 |
|  | 99  | 2861 | 11657 | 1.85 | 1.83 | 8954 | 37070 |  | 100 |
|  | 98  | 2745 | 11267 | 1.76 | 1.74 | 9432 | 38097 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2950 | 12075 | 1.83 | 1.83 | 9423 | 38266 | 100 |
|  | 100 | 2873 | 12232 | 1.79 | 1.90 | 9528 | 37402 | 100 |
|  | 100 | 2859 | 12013 | 1.78 | 1.81 | 9560 | 38480 | 100 |
|  | 100 | 3037 | 12065 | 1.95 | 1.90 | 9222 | 37568 | 100 |
|  | 100 | 2927 | 10779 | 1.79 | 1.78 | 9638 | 35447 | 100 |
|  | 100 | 2900 | 11892 | 1.80 | 1.81 | 9608 | 38106 | 100 |
|  | 100 | 3239 | 12076 | 1.98 | 1.83 | 9721 | 38622 | 100 |
|  | 99  | 3124 | 11587 | 1.95 | 1.81 | 9338 | 37393 | 100 |
|  | 99  | 2821 | 11187 | 1.82 | 1.75 | 9330 | 37717 | 100 |
|  | 99  | 2901 | 12390 | 1.80 | 1.87 | 9689 | 38492 | 100 |
|  | 100 | 3118 | 12277 | 1.88 | 1.89 | 9711 | 37351 | 100 |
|  | 97  | 2829 | 11528 | 1.80 | 1.83 | 9265 | 36407 | 100 |
|  | 100 | 2784 | 10781 | 1.78 | 1.71 | 9287 | 36881 | 100 |
|  | 99  | 2820 | 11598 | 1.76 | 1.77 | 9528 | 38084 | 100 |
|  | 100 | 2919 | 12127 | 1.86 | 1.86 | 9195 | 37408 | 100 |
|  | 100 | 2875 | 11535 | 1.74 | 1.77 | 9610 | 38122 | 100 |
|  | 99  | 2977 | 11845 | 1.84 | 1.81 | 9537 | 38182 | 100 |
|  | 99  | 2876 | 12156 | 1.84 | 1.87 | 9324 | 37460 | 100 |
|  | 100 | 2767 | 11205 | 1.77 | 1.78 | 9309 | 36789 | 100 |
|  | 98  | 2949 | 11568 | 1.86 | 1.81 | 9430 | 37364 | 100 |
|  | 98  | 2904 | 11380 | 1.88 | 1.87 | 9078 | 35726 | 100 |
|  | 99  | 2900 | 11089 | 1.82 | 1.75 | 9543 | 37469 | 100 |
|  | 99  | 2761 | 12331 | 1.75 | 1.94 | 9495 | 36507 | 100 |
|  | 99  | 2886 | 11696 | 1.78 | 1.84 | 9516 | 36883 | 100 |
|  | 100 | 2652 | 12471 | 1.71 | 1.85 | 9365 | 38538 | 100 |
|  | 100 | 3099 | 11772 | 1.94 | 1.84 | 9364 | 37149 | 100 |
|  | 99  | 2763 | 11985 | 1.82 | 1.89 | 8998 | 37021 | 100 |
|  | 100 | 2733 | 12040 | 1.78 | 1.82 | 9333 | 38710 | 100 |
|  | 98  | 3086 | 11878 | 1.89 | 1.86 | 9449 | 37138 | 100 |
|  | 99  | 2898 | 11145 | 1.82 | 1.80 | 9444 | 36397 | 100 |
|  | 100 | 2990 | 12605 | 1.87 | 1.90 | 9445 | 37957 | 100 |
|  | 100 | 2784 | 11540 | 1.78 | 1.84 | 9290 | 36313 | 100 |
|  | 99  | 2850 | 11606 | 1.80 | 1.78 | 9431 | 38205 | 100 |
|  | 99  | 3046 | 11758 | 1.85 | 1.82 | 9889 | 37596 | 100 |
|  | 100 | 2772 | 10871 | 1.78 | 1.76 | 9247 | 36193 | 100 |
|  | 100 | 2775 | 11619 | 1.77 | 1.78 | 9470 | 37853 | 100 |
|  | 97  | 3134 | 11191 | 1.92 | 1.75 | 9545 | 38066 | 100 |
|  | 99  | 3005 | 11214 | 1.87 | 1.79 | 9347 | 36512 | 100 |
|  | 100 | 2947 | 11956 | 1.81 | 1.87 | 9713 | 37136 | 100 |
|  | 100 | 2695 | 11719 | 1.76 | 1.87 | 9067 | 36498 | 100 |
|  | 97  | 2849 | 11837 | 1.79 | 1.79 | 9432 | 38350 | 100 |
|  | 100 | 3077 | 11934 | 1.85 | 1.84 | 9808 | 37902 | 100 |
|  | 100 | 2733 | 12550 | 1.80 | 1.88 | 9090 | 38482 | 100 |
|  | 99  | 2808 | 11989 | 1.78 | 1.86 | 9446 | 37519 | 100 |
|  | 99  | 2732 | 11893 | 1.80 | 1.86 | 9071 | 37383 | 100 |
|  | 100 | 2907 | 11053 | 1.83 | 1.73 | 9465 | 38281 | 100 |
|  | 99  | 2988 | 11203 | 1.87 | 1.78 | 9663 | 36815 | 100 |
|  | 98  | 2997 | 12594 | 1.85 | 1.92 | 9565 | 37256 | 100 |
|  | 99  | 2876 | 10554 | 1.80 | 1.70 | 9522 | 36988 | 100 |
|  | 99  | 3036 | 11344 | 1.82 | 1.75 | 9823 | 38360 | 100 |
|  | 98  | 3211 | 11506 | 1.98 | 1.78 | 9431 | 37856 | 100 |
|  | 100 | 2697 | 12468 | 1.76 | 1.91 | 9327 | 37446 | 100 |
|  | 100 | 2655 | 11541 | 1.74 | 1.81 | 9135 | 37320 | 100 |
|  | 99  | 2933 | 11234 | 1.87 | 1.71 | 9414 | 38654 | 100 |
|  | 99  | 3095 | 11914 | 1.89 | 1.82 | 9619 | 37914 | 100 |
|  | 100 | 3013 | 12431 | 1.89 | 1.91 | 9313 | 37706 | 100 |
|  | 99  | 2850 | 11274 | 1.80 | 1.77 | 9309 | 37152 | 100 |
|  | 99  | 2844 | 11911 | 1.75 | 1.81 | 9886 | 37854 | 100 |
|  | 100 | 3113 | 11236 | 1.90 | 1.74 | 9651 | 37453 | 100 |
|  | 100 | 2979 | 11296 | 1.84 | 1.79 | 9562 | 37208 | 100 |
|  | 100 | 2782 | 11742 | 1.77 | 1.84 | 9385 | 37110 | 100 |
|  | 99  | 2882 | 12472 | 1.82 | 1.94 | 9334 | 37866 | 100 |
|  | 100 | 2614 | 11854 | 1.77 | 1.90 | 8911 | 36079 | 100 |
|  | 100 | 3066 | 11324 | 1.83 | 1.77 | 9827 | 37435 | 100 |
|  | 100 | 3017 | 12147 | 1.93 | 1.85 | 9307 | 37998 | 100 |
|  | 100 | 2847 | 11389 | 1.82 | 1.81 | 9355 | 36502 | 100 |
|  | 99  | 2858 | 12069 | 1.76 | 1.84 | 9610 | 37989 | 100 |
|  | 100 | 2859 | 11188 | 1.80 | 1.80 | 9445 | 35902 | 100 |
|  | 98  | 2889 | 10994 | 1.83 | 1.72 | 9427 | 37737 | 100 |
|  | 99  | 3138 | 12170 | 1.93 | 1.86 | 9595 | 37700 | 100 |
|  | 99  | 2858 | 10830 | 1.85 | 1.74 | 9061 | 36699 | 100 |
|  | 100 | 3086 | 11765 | 1.89 | 1.82 | 9462 | 37390 | 100 |
|  | 100 | 2766 | 11715 | 1.81 | 1.84 | 9203 | 37161 | 100 |
|  | 100 | 2925 | 12115 | 1.79 | 1.84 | 9711 | 38202 | 100 |
|  | 99  | 3023 | 11866 | 1.90 | 1.87 | 9568 | 36720 | 100 |
|  | 100 | 2883 | 11659 | 1.78 | 1.80 | 9541 | 37502 | 100 |
|  | 100 | 3104 | 12096 | 1.88 | 1.87 | 9639 | 37311 | 100 |
|  | 100 | 3114 | 11853 | 1.94 | 1.85 | 9389 | 36875 | 100 |
|  | 99  | 3037 | 10860 | 1.86 | 1.79 | 9657 | 35696 | 100 |
|  | 99  | 2821 | 12152 | 1.77 | 1.81 | 9512 | 38858 | 100 |
|  | 98  | 3063 | 11514 | 1.90 | 1.74 | 9376 | 38777 | 100 |
|  | 100 | 2981 | 12492 | 1.92 | 1.92 | 9109 | 37780 | 100 |
|  | 99  | 2862 | 11275 | 1.82 | 1.79 | 9511 | 36801 | 100 |
|  | 99  | 3004 | 10868 | 1.84 | 1.69 | 9641 | 37928 | 100 |
|  | 99  | 3199 | 11570 | 1.91 | 1.78 | 9940 | 37951 | 100 |
|  | 99  | 2943 | 12501 | 1.82 | 1.86 | 9533 | 38895 | 100 |
|  | 99  | 2941 | 11840 | 1.83 | 1.78 | 9401 | 38793 | 100 |
|  | 100 | 2759 | 12275 | 1.79 | 1.95 | 9145 | 36622 | 100 |
|  | 100 | 2739 | 11926 | 1.75 | 1.82 | 9598 | 38080 | 100 |
|  | 99  | 2964 | 11709 | 1.82 | 1.86 | 9584 | 36826 | 100 |
|  | 99  | 2917 | 11266 | 1.83 | 1.78 | 9516 | 37519 | 100 |
|  | 98  | 2902 | 11832 | 1.85 | 1.79 | 9324 | 39018 | 100 |
|  | 100 | 2958 | 12211 | 1.86 | 1.90 | 9361 | 36566 | 100 |
|  | 100 | 2940 | 11987 | 1.83 | 1.84 | 9511 | 37756 | 100 |
|  | 99  | 3100 | 11605 | 1.87 | 1.81 | 9604 | 37483 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2831 | 11373 | 1.79 | 1.82 | 9412 | 36284 | 100 |
|  | 99  | 2994 | 11637 | 1.84 | 1.78 | 9727 | 37967 | 100 |
|  | 100 | 3123 | 12190 | 1.90 | 1.91 | 9783 | 36944 | 100 |
|  | 100 | 2794 | 12381 | 1.80 | 1.87 | 9324 | 38308 | 100 |
|  | 99  | 2915 | 11946 | 1.80 | 1.81 | 9706 | 38491 | 100 |
|  | 100 | 2810 | 12264 | 1.77 | 1.89 | 9359 | 37357 | 100 |
|  | 100 | 3065 | 12799 | 1.92 | 1.95 | 9369 | 37247 | 100 |
|  | 97  | 2807 | 11444 | 1.82 | 1.81 | 9223 | 36543 | 100 |
|  | 99  | 3055 | 12081 | 1.87 | 1.86 | 9496 | 37737 | 100 |
|  | 99  | 2861 | 11905 | 1.79 | 1.87 | 9483 | 36829 | 100 |
|  | 99  | 3018 | 11153 | 1.85 | 1.76 | 9570 | 37436 | 100 |
|  | 98  | 2902 | 11991 | 1.81 | 1.90 | 9583 | 36396 | 100 |
|  | 98  | 2848 | 10818 | 1.77 | 1.72 | 9387 | 37444 | 100 |
|  | 99  | 2987 | 12201 | 1.84 | 1.82 | 9701 | 39242 | 100 |
|  | 100 | 2933 | 12193 | 1.88 | 1.85 | 9102 | 38311 | 100 |
|  | 99  | 2863 | 12091 | 1.80 | 1.87 | 9385 | 37463 | 100 |
|  | 99  | 2913 | 11204 | 1.80 | 1.77 | 9678 | 36997 | 100 |
|  | 96  | 2889 | 11867 | 1.80 | 1.88 | 9336 | 36399 | 100 |
|  | 99  | 3044 | 11240 | 1.85 | 1.81 | 9628 | 36105 | 100 |
|  | 99  | 2901 | 11446 | 1.80 | 1.78 | 9549 | 37447 | 100 |
|  | 96  | 3059 | 10749 | 1.86 | 1.73 | 9532 | 36923 | 100 |
|  | 100 | 2835 | 12125 | 1.79 | 1.89 | 9309 | 36784 | 100 |
|  | 98  | 2768 | 11571 | 1.78 | 1.80 | 9130 | 37290 | 100 |
|  | 99  | 2888 | 12546 | 1.80 | 1.91 | 9727 | 38093 | 100 |
|  | 99  | 2967 | 11683 | 1.83 | 1.82 | 9419 | 37403 | 100 |
|  | 100 | 3187 | 11457 | 1.92 | 1.78 | 9631 | 37455 | 100 |
|  | 100 | 2913 | 11897 | 1.79 | 1.82 | 9702 | 38143 | 100 |
|  | 99  | 2983 | 11891 | 1.89 | 1.80 | 9198 | 38625 | 100 |
|  | 100 | 2659 | 11505 | 1.73 | 1.83 | 9137 | 36815 | 100 |
|  | 100 | 2746 | 11602 | 1.76 | 1.80 | 9315 | 37143 | 100 |
|  | 100 | 2974 | 12038 | 1.80 | 1.88 | 9804 | 36593 | 100 |
|  | 99  | 2965 | 11536 | 1.89 | 1.75 | 9150 | 38354 | 100 |
|  | 100 | 3031 | 12022 | 1.88 | 1.82 | 9592 | 38130 | 100 |
|  | 98  | 3039 | 11808 | 1.87 | 1.85 | 9459 | 37459 | 100 |
|  | 100 | 2655 | 11746 | 1.73 | 1.83 | 9255 | 37681 | 100 |
|  | 98  | 2776 | 12242 | 1.79 | 1.87 | 9272 | 38072 | 100 |
|  | 99  | 2758 | 12261 | 1.76 | 1.91 | 9517 | 36994 | 100 |
|  | 100 | 2850 | 11697 | 1.78 | 1.81 | 9457 | 37398 | 100 |
|  | 100 | 2963 | 11966 | 1.88 | 1.86 | 9373 | 37250 | 100 |
|  | 100 | 2815 | 11774 | 1.80 | 1.80 | 9367 | 38160 | 100 |
|  | 99  | 2860 | 11960 | 1.80 | 1.79 | 9533 | 38629 | 100 |
|  | 100 | 2747 | 12172 | 1.78 | 1.90 | 9356 | 37232 | 100 |
|  | 97  | 2841 | 11325 | 1.79 | 1.77 | 9316 | 37510 | 100 |
|  | 98  | 2878 | 11457 | 1.85 | 1.77 | 9273 | 37848 | 100 |
|  | 100 | 2803 | 11297 | 1.74 | 1.77 | 9629 | 36936 | 100 |
|  | 98  | 2907 | 11022 | 1.85 | 1.73 | 9457 | 37831 | 100 |
|  | 99  | 3093 | 11113 | 1.88 | 1.79 | 9674 | 36582 | 100 |
|  | 100 | 2890 | 11697 | 1.81 | 1.81 | 9616 | 37632 | 100 |
|  | 99  | 3155 | 11623 | 1.93 | 1.85 | 9560 | 36427 | 100 |
|  | 100 | 2969 | 11780 | 1.86 | 1.81 | 9459 | 37974 | 100 |
|  | 99  | 2809 | 12181 | 1.79 | 1.86 | 9449 | 37865 | 100 |
|  | 99  | 2877 | 11863 | 1.81 | 1.84 | 9379 | 37971 | 100 |
|  | 99  | 2719 | 11820 | 1.75 | 1.86 | 9310 | 37545 | 100 |
|  | 100 | 2765 | 11977 | 1.71 | 1.85 | 9624 | 37721 | 100 |
|  | 97  | 3234 | 11403 | 1.95 | 1.77 | 9762 | 37856 | 100 |
|  | 99  | 2823 | 12316 | 1.85 | 1.88 | 9107 | 37529 | 100 |
|  | 99  | 2847 | 11490 | 1.81 | 1.86 | 9319 | 36110 | 100 |
|  | 100 | 3021 | 11444 | 1.83 | 1.79 | 9603 | 37306 | 100 |
|  | 99  | 2897 | 11796 | 1.80 | 1.88 | 9373 | 36374 | 100 |
|  | 100 | 2913 | 11782 | 1.85 | 1.81 | 9472 | 38088 | 100 |
|  | 99  | 2955 | 12459 | 1.87 | 1.89 | 9314 | 38453 | 100 |
|  | 99  | 2876 | 11652 | 1.85 | 1.83 | 9299 | 37365 | 100 |
|  | 99  | 2947 | 12198 | 1.83 | 1.86 | 9419 | 38120 | 100 |
|  | 100 | 2709 | 12030 | 1.71 | 1.85 | 9461 | 37578 | 100 |
|  | 99  | 2926 | 11582 | 1.83 | 1.80 | 9495 | 37836 | 100 |
|  | 100 | 2882 | 12069 | 1.85 | 1.84 | 9128 | 38259 | 100 |
|  | 99  | 2974 | 11263 | 1.84 | 1.74 | 9576 | 38093 | 100 |
|  | 98  | 3273 | 11913 | 1.95 | 1.85 | 9907 | 37430 | 100 |
|  | 99  | 2927 | 11165 | 1.86 | 1.76 | 9092 | 37534 | 100 |
|  | 100 | 2629 | 12064 | 1.71 | 1.84 | 9286 | 37994 | 100 |
|  | 100 | 2955 | 11510 | 1.84 | 1.81 | 9610 | 37170 | 100 |
|  | 99  | 3001 | 12532 | 1.84 | 1.91 | 9531 | 37427 | 100 |
|  | 99  | 2799 | 10681 | 1.79 | 1.72 | 9290 | 36521 | 100 |
|  | 100 | 2951 | 11995 | 1.81 | 1.86 | 9709 | 36973 | 100 |
|  | 99  | 2654 | 12052 | 1.75 | 1.84 | 9061 | 38065 | 100 |
|  | 98  | 2802 | 12041 | 1.74 | 1.85 | 9666 | 37685 | 100 |
|  | 98  | 2881 | 12089 | 1.77 | 1.88 | 9817 | 37399 | 100 |
|  | 97  | 3026 | 11605 | 1.87 | 1.83 | 9521 | 36920 | 100 |
|  | 100 | 2856 | 12455 | 1.77 | 1.89 | 9527 | 38193 | 100 |
|  | 100 | 3109 | 11431 | 1.92 | 1.78 | 9446 | 37343 | 100 |
|  | 99  | 2884 | 12073 | 1.83 | 1.88 | 9233 | 37468 | 100 |
|  | 98  | 3111 | 11832 | 1.92 | 1.84 | 9399 | 37566 | 100 |
|  | 100 | 2706 | 12111 | 1.77 | 1.84 | 9160 | 38451 | 100 |
|  | 98  | 2668 | 11759 | 1.74 | 1.78 | 9182 | 38718 | 100 |
|  | 100 | 2576 | 11409 | 1.69 | 1.75 | 9334 | 37769 | 100 |
|  | 99  | 2849 | 11486 | 1.83 | 1.81 | 9188 | 37171 | 100 |
|  | 99  | 3083 | 11455 | 1.81 | 1.80 | 9932 | 37148 | 100 |
|  | 98  | 2754 | 11258 | 1.78 | 1.80 | 9228 | 36726 | 100 |
|  | 98  | 2885 | 11435 | 1.80 | 1.79 | 9571 | 36965 | 100 |
|  | 100 | 2935 | 12721 | 1.89 | 1.88 | 9232 | 39073 | 100 |
|  | 99  | 3111 | 11489 | 1.95 | 1.78 | 9178 | 38192 | 100 |
|  | 99  | 2759 | 12927 | 1.76 | 1.91 | 9375 | 39094 | 100 |
|  | 100 | 2984 | 11679 | 1.82 | 1.84 | 9658 | 37246 | 100 |
|  | 97  | 2877 | 12059 | 1.83 | 1.90 | 9312 | 36756 | 100 |
|  | 99  | 2859 | 12004 | 1.75 | 1.85 | 9516 | 37739 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2878 | 11189 | 1.77 | 1.80 | 9787 | 36459 |  | 100 |
|  | 100 | 2762 | 11750 | 1.82 | 1.79 | 9001 | 38292 |  | 100 |
|  | 99  | 3074 | 11820 | 1.90 | 1.82 | 9519 | 37765 |  | 100 |
|  | 99  | 3050 | 11399 | 1.89 | 1.79 | 9392 | 37494 |  | 100 |
|  | 100 | 2848 | 12146 | 1.84 | 1.84 | 9182 | 38177 |  | 100 |
|  | 100 | 2760 | 12634 | 1.75 | 1.91 | 9602 | 38250 |  | 100 |
|  | 98  | 2831 | 11400 | 1.81 | 1.78 | 9316 | 37198 |  | 100 |
|  | 99  | 2989 | 12314 | 1.89 | 1.90 | 9160 | 37372 |  | 100 |
|  | 100 | 2844 | 12103 | 1.81 | 1.90 | 9311 | 37544 |  | 100 |
|  | 99  | 3156 | 11207 | 1.94 | 1.76 | 9557 | 37104 |  | 100 |
|  | 99  | 2902 | 11673 | 1.79 | 1.83 | 9467 | 36823 |  | 100 |
|  | 99  | 3057 | 11565 | 1.87 | 1.79 | 9465 | 37615 |  | 100 |
|  | 96  | 2907 | 10945 | 1.84 | 1.72 | 9182 | 37691 |  | 100 |
|  | 98  | 2838 | 12382 | 1.81 | 1.85 | 9488 | 38423 |  | 100 |
|  | 99  | 2897 | 12367 | 1.82 | 1.92 | 9439 | 37231 |  | 100 |
|  | 99  | 2808 | 11949 | 1.75 | 1.87 | 9734 | 37490 |  | 100 |
|  | 98  | 3037 | 11350 | 1.87 | 1.77 | 9616 | 37579 |  | 100 |
|  | 99  | 2973 | 11237 | 1.84 | 1.80 | 9456 | 36389 |  | 100 |
|  | 97  | 3165 | 11376 | 1.87 | 1.82 | 9881 | 36297 |  | 100 |
|  | 99  | 2890 | 11926 | 1.81 | 1.88 | 9387 | 36850 |  | 100 |
|  | 99  | 2892 | 12258 | 1.83 | 1.87 | 9357 | 38096 |  | 100 |
|  | 100 | 2798 | 11493 | 1.74 | 1.80 | 9624 | 37064 |  | 100 |
|  | 100 | 2902 | 12795 | 1.85 | 1.91 | 9289 | 38506 |  | 100 |
|  | 99  | 2941 | 11770 | 1.82 | 1.79 | 9609 | 38453 |  | 100 |
|  | 100 | 3037 | 11881 | 1.87 | 1.83 | 9473 | 37955 |  | 100 |
|  | 98  | 2668 | 11175 | 1.77 | 1.78 | 9028 | 36520 |  | 100 |
|  | 100 | 2889 | 11732 | 1.81 | 1.78 | 9502 | 38212 |  | 100 |
|  | 100 | 3020 | 12404 | 1.89 | 1.88 | 9341 | 37972 |  | 100 |
|  | 100 | 2632 | 12057 | 1.75 | 1.84 | 9075 | 37676 |  | 100 |
|  | 99  | 2932 | 12150 | 1.77 | 1.84 | 9858 | 38118 |  | 100 |
|  | 100 | 2923 | 11638 | 1.83 | 1.84 | 9444 | 36734 |  | 100 |
|  | 100 | 2856 | 12504 | 1.82 | 1.92 | 9336 | 37765 |  | 100 |
|  | 97  | 2968 | 11597 | 1.84 | 1.80 | 9664 | 37582 |  | 100 |
|  | 100 | 2764 | 12085 | 1.78 | 1.84 | 9370 | 38041 |  | 100 |
|  | 99  | 2865 | 11537 | 1.82 | 1.82 | 9176 | 36781 |  | 100 |
|  | 99  | 2716 | 11979 | 1.71 | 1.82 | 9491 | 38245 |  | 100 |
|  | 100 | 2817 | 12260 | 1.82 | 1.89 | 9232 | 38213 |  | 100 |
|  | 99  | 3000 | 11545 | 1.86 | 1.80 | 9453 | 37357 |  | 100 |
|  | 100 | 2789 | 12939 | 1.77 | 1.99 | 9421 | 37173 |  | 100 |
|  | 99  | 3084 | 11759 | 1.86 | 1.81 | 9735 | 37361 |  | 100 |
|  | 98  | 2900 | 11625 | 1.82 | 1.83 | 9681 | 36690 |  | 100 |
|  | 100 | 2836 | 12053 | 1.81 | 1.85 | 9248 | 37574 |  | 100 |
|  | 99  | 2921 | 11396 | 1.85 | 1.76 | 9364 | 37858 |  | 100 |
|  | 99  | 3016 | 11584 | 1.86 | 1.82 | 9575 | 36738 |  | 100 |
|  | 100 | 2506 | 12033 | 1.69 | 1.84 | 9240 | 37769 |  | 100 |
|  | 100 | 3006 | 11887 | 1.88 | 1.84 | 9374 | 37386 |  | 100 |
|  | 99  | 2999 | 11112 | 1.90 | 1.74 | 9271 | 37711 |  | 100 |
|  | 97  | 2998 | 11950 | 1.91 | 1.81 | 9376 | 38251 |  | 100 |
|  | 97  | 2711 | 12439 | 1.72 | 1.90 | 9454 | 37797 |  | 100 |
|  | 99  | 2847 | 11771 | 1.80 | 1.83 | 9328 | 36910 |  | 100 |
|  | 100 | 3010 | 12534 | 1.85 | 1.93 | 9454 | 37027 |  | 100 |
|  | 100 | 2784 | 12323 | 1.81 | 1.88 | 9290 | 37738 |  | 100 |
|  | 100 | 2936 | 11322 | 1.85 | 1.75 | 9491 | 38253 |  | 100 |
|  | 100 | 3013 | 11452 | 1.88 | 1.81 | 9303 | 37016 |  | 100 |
|  | 98  | 2660 | 11504 | 1.67 | 1.83 | 9653 | 37710 |  | 100 |
|  | 98  | 3148 | 11180 | 1.90 | 1.80 | 9590 | 36708 |  | 100 |
|  | 98  | 2857 | 11687 | 1.84 | 1.82 | 9029 | 37529 |  | 100 |
|  | 99  | 2830 | 11962 | 1.84 | 1.86 | 9249 | 37020 |  | 100 |
|  | 100 | 2719 | 12184 | 1.72 | 1.88 | 9390 | 37996 |  | 100 |
|  | 100 | 2869 | 11796 | 1.83 | 1.85 | 9346 | 36836 |  | 100 |
|  | 99  | 2813 | 12059 | 1.81 | 1.81 | 9133 | 38610 |  | 100 |
|  | 99  | 2780 | 12897 | 1.80 | 1.97 | 9164 | 37830 |  | 100 |
|  | 99  | 2846 | 11622 | 1.81 | 1.81 | 9241 | 37276 |  | 100 |
|  | 99  | 2881 | 11463 | 1.77 | 1.81 | 9672 | 36759 |  | 100 |
|  | 98  | 2932 | 12449 | 1.89 | 1.94 | 9091 | 37456 |  | 100 |
|  | 100 | 2917 | 11206 | 1.80 | 1.74 | 9432 | 37756 |  | 100 |
|  | 100 | 3123 | 11888 | 1.92 | 1.80 | 9777 | 38491 |  | 100 |
|  | 100 | 2747 | 10874 | 1.74 | 1.73 | 9322 | 36929 |  | 100 |
|  | 100 | 2859 | 12245 | 1.79 | 1.87 | 9470 | 37841 |  | 100 |
|  | 99  | 2989 | 11508 | 1.84 | 1.82 | 9409 | 36682 |  | 100 |
|  | 99  | 2724 | 12039 | 1.73 | 1.86 | 9298 | 37333 |  | 100 |
|  | 98  | 2881 | 11690 | 1.81 | 1.81 | 9405 | 37499 |  | 100 |
|  | 99  | 2848 | 11696 | 1.77 | 1.80 | 9544 | 37440 |  | 100 |
|  | 100 | 2857 | 11578 | 1.76 | 1.81 | 9690 | 37401 |  | 100 |
|  | 99  | 2905 | 11332 | 1.83 | 1.76 | 9410 | 37817 |  | 100 |
|  | 99  | 2830 | 11594 | 1.82 | 1.82 | 9395 | 37370 |  | 100 |
|  | 100 | 2993 | 12026 | 1.86 | 1.84 | 9332 | 38545 |  | 100 |
|  | 99  | 2888 | 12226 | 1.82 | 1.86 | 9509 | 38167 |  | 100 |
|  | 99  | 2939 | 11553 | 1.81 | 1.84 | 9482 | 36642 |  | 100 |
|  | 99  | 2917 | 11791 | 1.78 | 1.82 | 9616 | 37795 |  | 100 |
|  | 99  | 2671 | 12439 | 1.70 | 1.87 | 9527 | 37943 |  | 100 |
|  | 98  | 2871 | 12119 | 1.81 | 1.86 | 9363 | 37870 |  | 100 |
|  | 98  | 3054 | 11142 | 1.83 | 1.81 | 9811 | 36658 |  | 100 |
|  | 99  | 2884 | 11881 | 1.81 | 1.85 | 9516 | 37114 |  | 100 |
|  | 99  | 2893 | 11151 | 1.81 | 1.76 | 9456 | 37155 |  | 100 |
|  | 97  | 3072 | 11646 | 1.87 | 1.79 | 9506 | 38216 |  | 100 |
|  | 100 | 3030 | 12084 | 1.92 | 1.87 | 9185 | 37669 |  | 100 |
|  | 100 | 2754 | 11564 | 1.75 | 1.81 | 9442 | 37468 |  | 100 |
|  | 100 | 3137 | 11781 | 1.92 | 1.86 | 9627 | 36999 |  | 100 |
|  | 100 | 2695 | 11929 | 1.72 | 1.82 | 9471 | 38237 |  | 100 |
|  | 97  | 2936 | 11851 | 1.85 | 1.82 | 9397 | 37954 |  | 100 |
|  | 100 | 2797 | 11629 | 1.80 | 1.82 | 9149 | 37073 |  | 100 |
|  | 100 | 2987 | 11844 | 1.84 | 1.80 | 9721 | 38442 |  | 100 |
|  | 100 | 2950 | 12407 | 1.87 | 1.87 | 9298 | 38147 |  | 100 |
|  | 99  | 2825 | 10800 | 1.77 | 1.75 | 9452 | 36203 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 3088 | 12814 | 1.91 | 1.90 | 9507 | 38957 |  | 100 |
|  | 99  | 2929 | 12788 | 1.89 | 1.88 | 9186 | 39304 |  | 100 |
|  | 100 | 2871 | 10976 | 1.79 | 1.76 | 9458 | 36575 |  | 100 |
|  | 99  | 2768 | 11835 | 1.78 | 1.84 | 9238 | 37621 |  | 100 |
|  | 99  | 2759 | 11513 | 1.75 | 1.77 | 9301 | 37945 |  | 100 |
|  | 96  | 2923 | 10982 | 1.80 | 1.79 | 9639 | 35822 |  | 100 |
|  | 99  | 3005 | 12051 | 1.89 | 1.82 | 9210 | 37840 |  | 100 |
|  | 98  | 3110 | 11783 | 1.87 | 1.82 | 9783 | 37369 |  | 100 |
|  | 100 | 2992 | 11749 | 1.90 | 1.84 | 9345 | 37089 |  | 100 |
|  | 99  | 2992 | 11522 | 1.86 | 1.78 | 9412 | 37970 |  | 100 |
|  | 100 | 2904 | 11871 | 1.80 | 1.88 | 9619 | 36757 |  | 100 |
|  | 99  | 2771 | 12275 | 1.77 | 1.85 | 9513 | 38197 |  | 100 |
|  | 100 | 3151 | 11938 | 1.92 | 1.85 | 9666 | 37637 |  | 100 |
|  | 100 | 2931 | 11650 | 1.83 | 1.84 | 9369 | 36987 |  | 100 |
|  | 99  | 2953 | 11974 | 1.85 | 1.84 | 9453 | 38081 |  | 100 |
|  | 97  | 2890 | 11184 | 1.84 | 1.79 | 9281 | 36551 |  | 100 |
|  | 99  | 2928 | 11426 | 1.81 | 1.77 | 9556 | 37512 |  | 100 |
|  | 100 | 2761 | 11474 | 1.74 | 1.83 | 9588 | 36545 |  | 100 |
|  | 98  | 2981 | 11693 | 1.86 | 1.81 | 9417 | 37713 |  | 100 |
|  | 100 | 2886 | 11387 | 1.83 | 1.79 | 9353 | 37026 |  | 100 |
|  | 99  | 3006 | 12802 | 1.88 | 1.93 | 9462 | 37884 |  | 100 |
|  | 99  | 2675 | 11954 | 1.70 | 1.86 | 9331 | 37421 |  | 100 |
|  | 100 | 3016 | 11728 | 1.86 | 1.80 | 9562 | 38110 |  | 100 |
|  | 99  | 3054 | 11248 | 1.90 | 1.80 | 9530 | 36500 |  | 100 |
|  | 98  | 2950 | 11698 | 1.81 | 1.82 | 9682 | 37272 |  | 100 |
|  | 99  | 3125 | 11536 | 1.96 | 1.81 | 9394 | 37279 |  | 100 |
|  | 98  | 2826 | 11916 | 1.77 | 1.86 | 9437 | 37171 |  | 100 |
|  | 99  | 3074 | 12183 | 1.90 | 1.90 | 9519 | 37289 |  | 100 |
|  | 98  | 3120 | 11767 | 1.89 | 1.83 | 9580 | 37420 |  | 100 |
|  | 100 | 2992 | 11412 | 1.85 | 1.78 | 9522 | 37276 |  | 100 |
|  | 100 | 2773 | 12006 | 1.77 | 1.82 | 9387 | 38124 |  | 100 |
|  | 100 | 2766 | 11632 | 1.85 | 1.79 | 9091 | 38136 |  | 100 |
|  | 100 | 2869 | 11547 | 1.84 | 1.77 | 9208 | 37827 |  | 100 |
|  | 98  | 2962 | 12554 | 1.82 | 1.94 | 9596 | 36956 |  | 100 |
|  | 100 | 2859 | 11605 | 1.83 | 1.83 | 9195 | 36983 |  | 100 |
|  | 98  | 2917 | 11535 | 1.84 | 1.78 | 9446 | 38064 |  | 100 |
|  | 98  | 2836 | 11645 | 1.79 | 1.83 | 9428 | 36795 |  | 100 |
|  | 100 | 2971 | 11472 | 1.84 | 1.83 | 9529 | 36922 |  | 100 |
|  | 100 | 2925 | 11522 | 1.81 | 1.79 | 9626 | 37316 |  | 100 |
|  | 99  | 3107 | 11457 | 1.88 | 1.81 | 9644 | 36632 |  | 100 |
|  | 98  | 2855 | 12252 | 1.80 | 1.86 | 9406 | 37623 |  | 100 |
|  | 100 | 2787 | 11396 | 1.77 | 1.83 | 9445 | 36137 |  | 100 |
|  | 97  | 3026 | 10595 | 1.87 | 1.67 | 9433 | 37843 |  | 100 |
|  | 96  | 2899 | 11399 | 1.78 | 1.77 | 9573 | 37533 |  | 100 |
|  | 100 | 2697 | 11846 | 1.79 | 1.84 | 9164 | 37596 |  | 100 |
|  | 100 | 3054 | 11386 | 1.90 | 1.77 | 9387 | 37676 |  | 100 |
|  | 98  | 2788 | 11721 | 1.81 | 1.81 | 9361 | 38035 |  | 100 |
|  | 99  | 2810 | 11091 | 1.78 | 1.77 | 9413 | 37220 |  | 100 |
|  | 99  | 2873 | 12227 | 1.84 | 1.90 | 9309 | 37219 |  | 100 |
|  | 97  | 2949 | 11533 | 1.83 | 1.80 | 9357 | 37675 |  | 100 |
|  | 100 | 3060 | 12548 | 1.89 | 1.91 | 9563 | 38108 |  | 100 |
|  | 100 | 2990 | 11735 | 1.89 | 1.87 | 9402 | 36399 |  | 100 |
|  | 99  | 2938 | 12488 | 1.86 | 1.88 | 9383 | 38400 |  | 100 |
|  | 98  | 3059 | 11889 | 1.93 | 1.79 | 9112 | 39119 |  | 100 |
|  | 99  | 2858 | 11974 | 1.82 | 1.86 | 9319 | 37644 |  | 100 |
|  | 100 | 2856 | 11393 | 1.81 | 1.83 | 9321 | 36156 |  | 100 |
|  | 100 | 2782 | 11718 | 1.74 | 1.81 | 9578 | 37723 |  | 100 |
|  | 98  | 2940 | 12279 | 1.85 | 1.92 | 9325 | 36454 |  | 100 |
|  | 100 | 2876 | 11944 | 1.79 | 1.86 | 9543 | 37274 |  | 100 |
|  | 98  | 2911 | 12181 | 1.82 | 1.85 | 9544 | 38192 |  | 100 |
|  | 98  | 2783 | 11198 | 1.75 | 1.80 | 9439 | 36243 |  | 100 |
|  | 99  | 2786 | 12207 | 1.76 | 1.87 | 9313 | 37371 |  | 100 |
|  | 99  | 2919 | 11476 | 1.86 | 1.77 | 9266 | 37569 |  | 100 |
|  | 100 | 3051 | 11960 | 1.87 | 1.81 | 9608 | 38329 |  | 100 |
|  | 99  | 2869 | 10683 | 1.83 | 1.74 | 9195 | 36290 |  | 100 |
|  | 100 | 2649 | 11193 | 1.73 | 1.79 | 9172 | 36538 |  | 100 |
|  | 97  | 3031 | 11884 | 1.87 | 1.83 | 9451 | 37761 |  | 100 |
|  | 99  | 2848 | 11305 | 1.88 | 1.80 | 9038 | 36433 |  | 100 |
|  | 99  | 2866 | 11576 | 1.81 | 1.84 | 9487 | 36465 |  | 100 |
|  | 99  | 2774 | 11669 | 1.76 | 1.84 | 9248 | 36992 |  | 100 |
|  | 100 | 3115 | 11507 | 1.92 | 1.81 | 9543 | 37264 |  | 100 |
|  | 99  | 3048 | 11888 | 1.86 | 1.86 | 9592 | 36919 |  | 100 |
|  | 100 | 2814 | 11529 | 1.87 | 1.87 | 9057 | 36168 |  | 100 |
|  | 99  | 2672 | 12563 | 1.74 | 1.88 | 9300 | 38593 |  | 100 |
|  | 99  | 2914 | 12179 | 1.88 | 1.84 | 9351 | 38204 |  | 100 |
|  | 100 | 3018 | 11322 | 1.99 | 1.80 | 9011 | 36692 |  | 100 |
|  | 98  | 2916 | 11995 | 1.80 | 1.82 | 9577 | 38385 |  | 100 |
|  | 98  | 2928 | 11188 | 1.82 | 1.79 | 9496 | 36931 |  | 100 |
|  | 99  | 2724 | 11501 | 1.75 | 1.81 | 9494 | 36630 |  | 100 |
|  | 100 | 2853 | 12023 | 1.78 | 1.84 | 9600 | 37675 |  | 100 |
|  | 98  | 2924 | 11750 | 1.88 | 1.89 | 9153 | 36353 |  | 100 |
|  | 100 | 2915 | 11185 | 1.81 | 1.75 | 9434 | 37353 |  | 100 |
|  | 99  | 2916 | 11624 | 1.79 | 1.79 | 9718 | 37957 |  | 100 |
|  | 100 | 2814 | 11513 | 1.81 | 1.84 | 9350 | 36068 |  | 100 |
|  | 100 | 2812 | 12274 | 1.75 | 1.86 | 9745 | 37925 |  | 100 |
|  | 100 | 2821 | 11586 | 1.79 | 1.85 | 9316 | 36573 |  | 100 |
|  | 100 | 2942 | 11908 | 1.81 | 1.80 | 9533 | 38639 |  | 100 |
|  | 100 | 2950 | 12477 | 1.81 | 1.87 | 9620 | 38991 |  | 100 |
|  | 100 | 2851 | 12522 | 1.85 | 1.92 | 9346 | 37565 |  | 100 |
|  | 100 | 2635 | 11442 | 1.72 | 1.82 | 9215 | 36697 |  | 100 |
|  | 100 | 2977 | 12052 | 1.85 | 1.82 | 9534 | 38287 |  | 100 |
|  | 99  | 3090 | 11628 | 1.89 | 1.82 | 9627 | 36926 |  | 100 |
|  | 100 | 2693 | 12247 | 1.73 | 1.85 | 9274 | 38407 |  | 100 |
|  | 100 | 2722 | 11997 | 1.74 | 1.88 | 9287 | 37061 |  | 100 |
|  | 100 | 2767 | 12218 | 1.76 | 1.95 | 9478 | 36141 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2662 | 11739 | 1.74 | 1.80 | 9286 | 38046 | 100 |
|  | 100 | 3004 | 12791 | 1.80 | 1.96 | 9726 | 37544 | 100 |
|  | 99  | 2830 | 11503 | 1.79 | 1.86 | 9458 | 36040 | 100 |
|  | 100 | 3010 | 12020 | 1.83 | 1.83 | 9705 | 37879 | 100 |
|  | 100 | 3035 | 11789 | 1.88 | 1.84 | 9306 | 36906 | 100 |
|  | 98  | 2846 | 12203 | 1.76 | 1.82 | 9747 | 38931 | 100 |
|  | 100 | 3173 | 12106 | 1.95 | 1.86 | 9449 | 37535 | 100 |
|  | 100 | 2656 | 11602 | 1.72 | 1.81 | 9424 | 37376 | 100 |
|  | 99  | 2987 | 12061 | 1.84 | 1.83 | 9628 | 38558 | 100 |
|  | 100 | 2864 | 11742 | 1.83 | 1.84 | 9214 | 36818 | 100 |
|  | 100 | 3059 | 11513 | 1.87 | 1.81 | 9753 | 37167 | 100 |
|  | 100 | 2834 | 11215 | 1.81 | 1.80 | 9287 | 36770 | 100 |
|  | 99  | 2910 | 11214 | 1.79 | 1.78 | 9726 | 36909 | 100 |
|  | 100 | 3071 | 12417 | 1.84 | 1.90 | 9807 | 37902 | 100 |
|  | 100 | 2761 | 11576 | 1.78 | 1.79 | 9274 | 37986 | 100 |
|  | 99  | 3148 | 11987 | 1.86 | 1.78 | 9891 | 39421 | 100 |
|  | 99  | 2883 | 11975 | 1.79 | 1.85 | 9598 | 37391 | 100 |
|  | 100 | 3017 | 11237 | 1.83 | 1.73 | 9773 | 38840 | 100 |
|  | 99  | 3303 | 11463 | 1.96 | 1.79 | 9754 | 37249 | 100 |
|  | 100 | 2850 | 11721 | 1.79 | 1.87 | 9306 | 36465 | 100 |
|  | 99  | 2765 | 12341 | 1.76 | 1.90 | 9548 | 37605 | 100 |
|  | 100 | 2954 | 11175 | 1.88 | 1.82 | 9214 | 36037 | 100 |
|  | 100 | 3146 | 11405 | 1.91 | 1.78 | 9619 | 37417 | 100 |
|  | 97  | 2973 | 12155 | 1.91 | 1.92 | 9321 | 36734 | 100 |
|  | 100 | 2873 | 11562 | 1.78 | 1.80 | 9630 | 38302 | 100 |
|  | 100 | 2672 | 11426 | 1.72 | 1.81 | 9237 | 37096 | 100 |
|  | 100 | 2790 | 12198 | 1.76 | 1.84 | 9747 | 38619 | 100 |
|  | 100 | 3021 | 11471 | 1.88 | 1.83 | 9370 | 36903 | 100 |
|  | 100 | 2670 | 11441 | 1.73 | 1.82 | 9395 | 36438 | 100 |
|  | 98  | 2912 | 11877 | 1.89 | 1.86 | 9259 | 37491 | 100 |
|  | 99  | 2844 | 11294 | 1.82 | 1.77 | 9211 | 37308 | 100 |
|  | 100 | 3120 | 11361 | 1.94 | 1.78 | 9465 | 37774 | 100 |
|  | 99  | 3027 | 11103 | 1.87 | 1.75 | 9520 | 37516 | 100 |
|  | 100 | 3012 | 12110 | 1.89 | 1.87 | 9457 | 37801 | 100 |
|  | 100 | 2739 | 12325 | 1.79 | 1.95 | 9092 | 36520 | 100 |
|  | 100 | 2864 | 11141 | 1.78 | 1.76 | 9619 | 37027 | 100 |
|  | 97  | 2715 | 12094 | 1.78 | 1.86 | 9212 | 37261 | 100 |
|  | 100 | 2858 | 12393 | 1.77 | 1.91 | 9628 | 36982 | 100 |
|  | 99  | 2761 | 11874 | 1.74 | 1.83 | 9571 | 37729 | 100 |
|  | 100 | 2904 | 12287 | 1.79 | 1.89 | 9531 | 38008 | 100 |
|  | 100 | 2782 | 11513 | 1.81 | 1.81 | 9034 | 36904 | 100 |
|  | 97  | 2812 | 11752 | 1.79 | 1.84 | 9283 | 37127 | 100 |
|  | 99  | 2979 | 12350 | 1.84 | 1.87 | 9472 | 38309 | 100 |
|  | 99  | 2875 | 11391 | 1.84 | 1.82 | 9174 | 36327 | 100 |
|  | 99  | 2835 | 11254 | 1.74 | 1.81 | 9705 | 37023 | 100 |
|  | 100 | 2593 | 12361 | 1.69 | 1.95 | 9291 | 36148 | 100 |
|  | 100 | 2842 | 11830 | 1.79 | 1.83 | 9420 | 37933 | 100 |
|  | 100 | 2833 | 12224 | 1.79 | 1.88 | 9420 | 38231 | 100 |
|  | 100 | 2928 | 11956 | 1.81 | 1.86 | 9608 | 37133 | 100 |
|  | 100 | 2880 | 11683 | 1.78 | 1.78 | 9649 | 38523 | 100 |
|  | 99  | 2938 | 12218 | 1.80 | 1.84 | 9709 | 37994 | 100 |
|  | 100 | 2699 | 11409 | 1.77 | 1.85 | 9146 | 35463 | 100 |
|  | 100 | 3022 | 11565 | 1.85 | 1.80 | 9635 | 37550 | 100 |
|  | 99  | 3013 | 12144 | 1.87 | 1.87 | 9457 | 37929 | 100 |
|  | 98  | 2912 | 11252 | 1.77 | 1.73 | 9754 | 37715 | 100 |
|  | 99  | 3016 | 12708 | 1.85 | 1.87 | 9549 | 38979 | 100 |
|  | 100 | 2604 | 11457 | 1.70 | 1.85 | 9260 | 36282 | 100 |
|  | 100 | 3021 | 12740 | 1.89 | 1.92 | 9355 | 38290 | 100 |
|  | 100 | 3075 | 12257 | 1.90 | 1.91 | 9314 | 37133 | 100 |
|  | 99  | 2759 | 11284 | 1.75 | 1.78 | 9587 | 37362 | 100 |
|  | 99  | 3148 | 11209 | 1.86 | 1.77 | 9874 | 37415 | 100 |
|  | 100 | 2855 | 11374 | 1.81 | 1.86 | 9241 | 35261 | 100 |
|  | 99  | 2953 | 12257 | 1.82 | 1.90 | 9658 | 37196 | 100 |
|  | 99  | 3062 | 11956 | 1.93 | 1.85 | 9557 | 37633 | 100 |
|  | 100 | 2826 | 11724 | 1.90 | 1.83 | 8976 | 36956 | 100 |
|  | 100 | 2935 | 11673 | 1.86 | 1.83 | 9325 | 37214 | 100 |
|  | 100 | 2907 | 11314 | 1.79 | 1.82 | 9612 | 36365 | 100 |
|  | 99  | 3124 | 12764 | 1.96 | 1.95 | 9433 | 37529 | 100 |
|  | 100 | 2757 | 11888 | 1.76 | 1.87 | 9443 | 36869 | 100 |
|  | 100 | 2919 | 13249 | 1.85 | 1.99 | 9275 | 37980 | 100 |
|  | 98  | 2913 | 11924 | 1.86 | 1.92 | 9219 | 35997 | 100 |
|  | 100 | 2802 | 11514 | 1.76 | 1.81 | 9414 | 36793 | 100 |
|  | 100 | 2836 | 12705 | 1.82 | 1.92 | 9230 | 37765 | 100 |
|  | 100 | 2729 | 11403 | 1.76 | 1.81 | 9223 | 36890 | 100 |
|  | 99  | 2903 | 11527 | 1.86 | 1.79 | 9101 | 37635 | 100 |
|  | 100 | 2722 | 10746 | 1.73 | 1.79 | 9429 | 35349 | 100 |
|  | 100 | 2796 | 12541 | 1.79 | 1.88 | 9445 | 38299 | 100 |
|  | 100 | 2942 | 12491 | 1.83 | 1.85 | 9638 | 38840 | 100 |
|  | 100 | 2809 | 12005 | 1.75 | 1.82 | 9898 | 38200 | 100 |
|  | 99  | 3036 | 11768 | 1.90 | 1.79 | 9272 | 38523 | 100 |
|  | 99  | 2891 | 11244 | 1.88 | 1.76 | 9071 | 37788 | 100 |
|  | 99  | 2819 | 12007 | 1.78 | 1.85 | 9583 | 37915 | 100 |
|  | 100 | 2964 | 11875 | 1.90 | 1.88 | 9059 | 36155 | 100 |
|  | 99  | 3006 | 11925 | 1.83 | 1.87 | 9916 | 37825 | 100 |
|  | 100 | 2703 | 11106 | 1.76 | 1.77 | 9119 | 36366 | 100 |
|  | 100 | 2820 | 11624 | 1.75 | 1.80 | 9549 | 37332 | 100 |
|  | 100 | 3213 | 11799 | 1.98 | 1.82 | 9404 | 38016 | 100 |
|  | 100 | 2847 | 11986 | 1.78 | 1.89 | 9587 | 36749 | 100 |
|  | 99  | 2819 | 12230 | 1.74 | 1.87 | 9825 | 37412 | 100 |
|  | 99  | 2783 | 11829 | 1.77 | 1.87 | 9332 | 36336 | 100 |
|  | 100 | 2667 | 11619 | 1.70 | 1.81 | 9551 | 37494 | 100 |
|  | 100 | 2710 | 11274 | 1.80 | 1.81 | 9121 | 36068 | 100 |
|  | 100 | 2822 | 12253 | 1.80 | 1.83 | 9438 | 38608 | 100 |
|  | 100 | 2926 | 12171 | 1.82 | 1.90 | 9404 | 36675 | 100 |
|  | 99  | 2837 | 11658 | 1.81 | 1.79 | 9297 | 37983 | 100 |



|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 3291 | 12209 | 1.99 | 1.87 | 9507 | 37349 |  | 100 |
|  | 100 | 2791 | 11765 | 1.80 | 1.86 | 9259 | 36780 |  | 100 |
|  | 100 | 3014 | 11999 | 1.82 | 1.86 | 9753 | 37360 |  | 100 |
|  | 98  | 2631 | 11482 | 1.69 | 1.83 | 9368 | 36687 |  | 100 |
|  | 100 | 3012 | 11647 | 1.88 | 1.77 | 9369 | 38089 |  | 100 |
|  | 100 | 3057 | 12356 | 1.90 | 1.87 | 9376 | 38086 |  | 100 |
|  | 100 | 2605 | 11374 | 1.71 | 1.79 | 9221 | 37330 |  | 100 |
|  | 100 | 3028 | 12297 | 1.86 | 1.91 | 9590 | 37166 |  | 100 |
|  | 100 | 2572 | 11907 | 1.68 | 1.86 | 9271 | 37196 |  | 100 |
|  | 99  | 2848 | 11545 | 1.81 | 1.76 | 9389 | 38463 |  | 100 |
|  | 99  | 2887 | 11905 | 1.84 | 1.83 | 9150 | 38354 |  | 100 |
|  | 99  | 2860 | 12434 | 1.79 | 1.90 | 9611 | 37758 |  | 100 |
|  | 100 | 2811 | 12150 | 1.84 | 1.88 | 9057 | 37526 |  | 100 |
|  | 99  | 2969 | 12042 | 1.85 | 1.84 | 9513 | 37921 |  | 100 |
|  | 100 | 2784 | 11263 | 1.79 | 1.80 | 9358 | 36363 |  | 100 |
|  | 100 | 2811 | 12577 | 1.77 | 1.91 | 9353 | 37783 |  | 100 |
|  | 99  | 3039 | 11648 | 1.88 | 1.79 | 9559 | 37481 |  | 100 |
|  | 99  | 2817 | 12039 | 1.75 | 1.83 | 9636 | 38282 |  | 100 |
|  | 100 | 2985 | 12269 | 1.90 | 1.91 | 9348 | 37222 |  | 100 |
|  | 100 | 2897 | 12146 | 1.80 | 1.85 | 9582 | 38417 |  | 100 |
|  | 100 | 2765 | 11537 | 1.80 | 1.88 | 9082 | 35790 |  | 100 |
|  | 100 | 2928 | 12650 | 1.85 | 1.96 | 9497 | 37423 |  | 100 |
|  | 100 | 2865 | 11727 | 1.80 | 1.81 | 9320 | 38144 |  | 100 |
|  | 98  | 2684 | 11270 | 1.73 | 1.76 | 9177 | 38241 |  | 100 |
|  | 100 | 2881 | 12465 | 1.80 | 1.89 | 9576 | 37909 |  | 100 |
|  | 97  | 2951 | 11031 | 1.79 | 1.72 | 9734 | 37932 |  | 100 |
|  | 99  | 2885 | 11087 | 1.84 | 1.81 | 9326 | 35363 |  | 100 |
|  | 100 | 2653 | 11022 | 1.70 | 1.75 | 9417 | 36720 |  | 100 |
|  | 99  | 2838 | 11555 | 1.77 | 1.80 | 9720 | 37402 |  | 100 |
|  | 99  | 2799 | 11856 | 1.80 | 1.90 | 9327 | 36206 |  | 100 |
|  | 100 | 2771 | 11643 | 1.75 | 1.81 | 9542 | 37674 |  | 100 |
|  | 99  | 3088 | 12202 | 1.86 | 1.87 | 9843 | 37776 |  | 100 |
|  | 100 | 2835 | 11808 | 1.79 | 1.86 | 9339 | 36871 |  | 100 |
|  | 97  | 3062 | 11976 | 1.88 | 1.85 | 9555 | 37473 |  | 100 |
|  | 99  | 2761 | 11106 | 1.78 | 1.77 | 9320 | 36969 |  | 100 |
|  | 99  | 2891 | 12310 | 1.81 | 1.84 | 9528 | 38802 |  | 100 |
|  | 100 | 3089 | 12094 | 1.91 | 1.91 | 9394 | 36454 |  | 100 |
|  | 97  | 2859 | 11543 | 1.80 | 1.83 | 9285 | 37150 |  | 100 |
|  | 100 | 2854 | 11436 | 1.77 | 1.77 | 9494 | 37782 |  | 100 |
|  | 99  | 2994 | 12225 | 1.88 | 1.88 | 9382 | 37142 |  | 100 |
|  | 99  | 2923 | 11604 | 1.85 | 1.82 | 9293 | 37028 |  | 100 |
|  | 100 | 2661 | 11642 | 1.74 | 1.83 | 9287 | 36975 |  | 100 |
|  | 100 | 3135 | 11359 | 1.89 | 1.75 | 9517 | 38253 |  | 100 |
|  | 100 | 2690 | 11230 | 1.78 | 1.83 | 8915 | 35532 |  | 100 |
|  | 99  | 2859 | 11655 | 1.81 | 1.84 | 9269 | 37402 |  | 100 |
|  | 98  | 2924 | 11933 | 1.84 | 1.81 | 9339 | 38348 |  | 100 |
|  | 100 | 2816 | 11310 | 1.81 | 1.79 | 9307 | 36682 |  | 100 |
|  | 100 | 2955 | 11761 | 1.78 | 1.81 | 9835 | 38169 |  | 100 |
|  | 99  | 2828 | 11826 | 1.81 | 1.82 | 9252 | 37781 |  | 100 |
|  | 99  | 2981 | 11597 | 1.79 | 1.82 | 9850 | 36670 |  | 100 |
|  | 99  | 2954 | 12532 | 1.85 | 1.89 | 9445 | 38715 |  | 100 |
|  | 99  | 2805 | 12272 | 1.79 | 1.92 | 9234 | 36902 |  | 100 |
|  | 99  | 3066 | 11501 | 1.89 | 1.78 | 9322 | 37969 |  | 100 |
|  | 100 | 2852 | 11560 | 1.83 | 1.84 | 9230 | 36470 |  | 100 |
|  | 95  | 2729 | 11237 | 1.78 | 1.73 | 9145 | 38002 |  | 100 |
|  | 100 | 2849 | 11951 | 1.82 | 1.83 | 9382 | 37953 |  | 100 |
|  | 98  | 2905 | 11141 | 1.81 | 1.77 | 9504 | 36849 |  | 100 |
|  | 100 | 2854 | 11268 | 1.79 | 1.77 | 9449 | 37507 |  | 100 |
|  | 100 | 2861 | 11061 | 1.80 | 1.77 | 9577 | 37071 |  | 100 |
|  | 100 | 2997 | 12423 | 1.89 | 1.88 | 9404 | 38483 |  | 100 |
|  | 100 | 2862 | 11448 | 1.85 | 1.81 | 9288 | 37144 |  | 100 |
|  | 99  | 3091 | 12171 | 1.88 | 1.87 | 9541 | 37341 |  | 100 |
|  | 100 | 2806 | 11729 | 1.80 | 1.80 | 9317 | 37877 |  | 100 |
|  | 98  | 3131 | 11397 | 1.92 | 1.75 | 9505 | 37947 |  | 100 |
|  | 100 | 2954 | 12054 | 1.91 | 1.91 | 9212 | 35851 |  | 100 |
|  | 100 | 2816 | 11961 | 1.82 | 1.85 | 9331 | 37630 |  | 100 |
|  | 98  | 2812 | 12584 | 1.77 | 1.87 | 9424 | 38733 |  | 100 |
|  | 99  | 2845 | 11723 | 1.81 | 1.82 | 9277 | 37527 |  | 100 |
|  | 98  | 2715 | 10726 | 1.73 | 1.71 | 9422 | 37351 |  | 100 |
|  | 99  | 2990 | 11895 | 1.88 | 1.79 | 9384 | 38572 |  | 100 |
|  | 100 | 3104 | 11628 | 1.93 | 1.81 | 9545 | 37263 |  | 100 |
|  | 100 | 2763 | 11361 | 1.77 | 1.78 | 9340 | 37044 |  | 100 |
|  | 99  | 3180 | 12666 | 1.93 | 1.88 | 9674 | 38733 |  | 100 |
|  | 100 | 3040 | 12041 | 1.88 | 1.89 | 9424 | 36792 |  | 100 |
|  | 100 | 2908 | 11674 | 1.79 | 1.78 | 9616 | 38419 |  | 100 |
|  | 100 | 2996 | 12415 | 1.80 | 1.88 | 9737 | 37884 |  | 100 |
|  | 99  | 2863 | 11475 | 1.82 | 1.82 | 9289 | 36608 |  | 100 |
|  | 100 | 3018 | 11730 | 1.89 | 1.82 | 9535 | 37507 |  | 100 |
|  | 100 | 3114 | 12158 | 1.90 | 1.86 | 9695 | 37328 |  | 100 |
|  | 99  | 3053 | 11636 | 1.87 | 1.83 | 9762 | 37331 |  | 100 |
|  | 100 | 2862 | 11866 | 1.82 | 1.79 | 9368 | 38743 |  | 100 |
|  | 99  | 2958 | 12239 | 1.82 | 1.89 | 9628 | 37382 |  | 100 |
|  | 100 | 2921 | 11447 | 1.80 | 1.80 | 9630 | 37120 |  | 100 |
|  | 99  | 2938 | 12455 | 1.83 | 1.93 | 9441 | 36727 |  | 100 |
|  | 100 | 2855 | 11751 | 1.78 | 1.85 | 9593 | 37138 |  | 100 |
|  | 100 | 2885 | 12136 | 1.83 | 1.88 | 9353 | 37349 |  | 100 |
|  | 99  | 2919 | 11294 | 1.91 | 1.78 | 8922 | 37394 |  | 100 |
|  | 98  | 2908 | 11739 | 1.80 | 1.80 | 9539 | 38152 |  | 100 |
|  | 100 | 2821 | 11486 | 1.81 | 1.85 | 9404 | 35969 |  | 100 |
|  | 100 | 2682 | 12130 | 1.74 | 1.82 | 9407 | 38660 |  | 100 |
|  | 97  | 2840 | 11279 | 1.88 | 1.81 | 9058 | 35556 |  | 100 |
|  | 100 | 2979 | 12511 | 1.91 | 1.89 | 9310 | 38337 |  | 100 |
|  | 100 | 2938 | 11228 | 1.82 | 1.81 | 9567 | 36477 |  | 100 |
|  | 99  | 2908 | 12682 | 1.83 | 1.90 | 9657 | 38255 |  | 100 |
|  | 100 | 2907 | 11524 | 1.81 | 1.78 | 9575 | 37834 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 3039 | 11951 | 1.89 | 1.81 | 9399 | 38525 |  | 100 |
|  | 100 | 2908 | 11526 | 1.78 | 1.79 | 9575 | 37374 |  | 100 |
|  | 99  | 2964 | 11599 | 1.81 | 1.80 | 9670 | 37870 |  | 100 |
|  | 100 | 2877 | 11926 | 1.80 | 1.87 | 9363 | 37370 |  | 100 |
|  | 100 | 2979 | 11702 | 1.87 | 1.84 | 9301 | 37445 |  | 100 |
|  | 100 | 2634 | 11965 | 1.72 | 1.84 | 9183 | 37488 |  | 100 |
|  | 98  | 3100 | 12464 | 1.92 | 1.90 | 9593 | 38059 |  | 100 |
|  | 100 | 3013 | 11646 | 1.88 | 1.85 | 9371 | 36691 |  | 100 |
|  | 100 | 2986 | 11776 | 1.81 | 1.84 | 9688 | 37261 |  | 100 |
|  | 98  | 2974 | 11963 | 1.88 | 1.81 | 9330 | 38733 |  | 100 |
|  | 98  | 3104 | 11934 | 1.92 | 1.85 | 9443 | 37496 |  | 100 |
|  | 100 | 2580 | 12075 | 1.65 | 1.81 | 9512 | 38957 |  | 100 |
|  | 99  | 2992 | 11684 | 1.88 | 1.81 | 9319 | 38156 |  | 100 |
|  | 100 | 2923 | 12124 | 1.81 | 1.87 | 9486 | 37489 |  | 100 |
|  | 99  | 2920 | 11470 | 1.88 | 1.80 | 9256 | 37566 |  | 100 |
|  | 100 | 2890 | 12124 | 1.82 | 1.86 | 9643 | 37742 |  | 100 |
|  | 99  | 2882 | 12031 | 1.83 | 1.89 | 9390 | 36983 |  | 100 |
|  | 99  | 3065 | 11464 | 1.87 | 1.78 | 9495 | 38407 |  | 100 |
|  | 100 | 3028 | 12124 | 1.89 | 1.86 | 9665 | 37578 |  | 100 |
|  | 99  | 2885 | 11412 | 1.77 | 1.82 | 9529 | 36828 |  | 100 |
|  | 98  | 3215 | 12131 | 1.97 | 1.85 | 9425 | 38219 |  | 100 |
|  | 98  | 2916 | 11901 | 1.87 | 1.83 | 9290 | 37690 |  | 100 |
|  | 99  | 3078 | 11176 | 1.87 | 1.80 | 9439 | 36344 |  | 100 |
|  | 97  | 2913 | 11547 | 1.85 | 1.79 | 9371 | 37698 |  | 100 |
|  | 100 | 2898 | 12438 | 1.86 | 1.88 | 9183 | 38195 |  | 100 |
|  | 100 | 2897 | 12632 | 1.81 | 1.91 | 9520 | 38288 |  | 100 |
|  | 99  | 2917 | 11397 | 1.80 | 1.77 | 9382 | 37361 |  | 100 |
|  | 99  | 2888 | 12281 | 1.85 | 1.88 | 9261 | 37516 |  | 100 |
|  | 99  | 2851 | 11271 | 1.79 | 1.76 | 9478 | 37506 |  | 100 |
|  | 100 | 2895 | 11512 | 1.84 | 1.79 | 9414 | 37368 |  | 100 |
|  | 100 | 2945 | 11669 | 1.85 | 1.84 | 9497 | 36696 |  | 100 |
|  | 100 | 2646 | 11513 | 1.71 | 1.81 | 9392 | 37279 |  | 100 |
|  | 99  | 3049 | 12191 | 1.88 | 1.86 | 9628 | 38031 |  | 100 |
|  | 100 | 2688 | 11428 | 1.71 | 1.80 | 9200 | 36956 |  | 100 |
|  | 100 | 2915 | 11357 | 1.82 | 1.82 | 9407 | 37130 |  | 100 |
|  | 100 | 2679 | 11514 | 1.73 | 1.79 | 9454 | 37754 |  | 100 |
|  | 98  | 3185 | 12225 | 1.96 | 1.88 | 9398 | 38034 |  | 100 |
|  | 100 | 2910 | 11880 | 1.81 | 1.83 | 9555 | 37769 |  | 100 |
|  | 99  | 2858 | 11443 | 1.76 | 1.79 | 9613 | 37230 |  | 100 |
|  | 99  | 2788 | 12425 | 1.78 | 1.90 | 9302 | 37305 |  | 100 |
|  | 99  | 2831 | 11897 | 1.80 | 1.82 | 9291 | 37880 |  | 100 |
|  | 99  | 2809 | 12161 | 1.75 | 1.87 | 9525 | 37249 |  | 100 |
|  | 99  | 2897 | 11950 | 1.81 | 1.82 | 9377 | 38295 |  | 100 |
|  | 100 | 2914 | 12315 | 1.83 | 1.89 | 9469 | 37551 |  | 100 |
|  | 100 | 3135 | 12379 | 1.90 | 1.91 | 9700 | 37642 |  | 100 |
|  | 99  | 2899 | 11961 | 1.84 | 1.85 | 9252 | 37847 |  | 100 |
|  | 100 | 2734 | 12434 | 1.76 | 1.92 | 9480 | 37957 |  | 100 |
|  | 98  | 2901 | 11922 | 1.80 | 1.84 | 9501 | 37974 |  | 100 |
|  | 98  | 3117 | 11459 | 1.87 | 1.81 | 9816 | 36724 |  | 100 |
|  | 99  | 2783 | 11421 | 1.76 | 1.81 | 9550 | 37045 |  | 100 |
|  | 98  | 3004 | 12095 | 1.87 | 1.89 | 9305 | 36965 |  | 100 |
|  | 100 | 2992 | 12135 | 1.86 | 1.91 | 9406 | 37156 |  | 100 |
|  | 99  | 2995 | 11308 | 1.85 | 1.76 | 9555 | 37552 |  | 100 |
|  | 100 | 2802 | 12083 | 1.78 | 1.87 | 9391 | 37191 |  | 100 |
|  | 100 | 3001 | 12793 | 1.83 | 1.93 | 9475 | 37886 |  | 100 |
|  | 99  | 2876 | 11458 | 1.84 | 1.80 | 9281 | 36982 |  | 100 |
|  | 98  | 2890 | 11599 | 1.80 | 1.80 | 9705 | 37603 |  | 100 |
|  | 100 | 2806 | 11716 | 1.75 | 1.81 | 9671 | 37816 |  | 100 |
|  | 98  | 3098 | 11773 | 1.87 | 1.81 | 9851 | 37375 |  | 100 |
|  | 100 | 2927 | 11655 | 1.81 | 1.81 | 9648 | 37244 |  | 100 |
|  | 99  | 2813 | 11717 | 1.83 | 1.78 | 9175 | 38179 |  | 100 |
|  | 100 | 3126 | 12204 | 1.91 | 1.86 | 9535 | 38576 |  | 100 |
|  | 100 | 2822 | 12337 | 1.81 | 1.91 | 9258 | 37225 |  | 100 |
|  | 99  | 2864 | 11877 | 1.77 | 1.84 | 9704 | 37563 |  | 100 |
|  | 99  | 2872 | 11884 | 1.77 | 1.83 | 9594 | 37711 |  | 100 |
|  | 99  | 2955 | 12579 | 1.85 | 1.90 | 9416 | 37601 |  | 100 |
|  | 99  | 2841 | 11977 | 1.82 | 1.85 | 9216 | 37501 |  | 100 |
|  | 99  | 2856 | 11689 | 1.84 | 1.83 | 9188 | 37740 |  | 100 |
|  | 100 | 3155 | 12140 | 1.89 | 1.85 | 9740 | 38173 |  | 100 |
|  | 99  | 2845 | 12812 | 1.86 | 1.92 | 9139 | 38161 |  | 100 |
|  | 100 | 3127 | 11996 | 1.94 | 1.84 | 9455 | 37817 |  | 100 |
|  | 100 | 3127 | 12372 | 1.94 | 1.88 | 9332 | 37871 |  | 100 |
|  | 98  | 2982 | 11896 | 1.81 | 1.85 | 9627 | 37255 |  | 100 |
|  | 100 | 3025 | 11895 | 1.88 | 1.85 | 9474 | 36848 |  | 100 |
|  | 100 | 2930 | 11518 | 1.82 | 1.82 | 9466 | 37000 |  | 100 |
|  | 99  | 2808 | 12013 | 1.77 | 1.90 | 9497 | 36807 |  | 100 |
|  | 99  | 3109 | 11546 | 1.94 | 1.78 | 9325 | 37772 |  | 100 |
|  | 100 | 3182 | 11640 | 1.90 | 1.80 | 9827 | 38225 |  | 100 |
|  | 100 | 2981 | 11772 | 1.84 | 1.84 | 9527 | 37407 |  | 100 |
|  | 98  | 2868 | 11281 | 1.86 | 1.75 | 9070 | 38028 |  | 100 |
|  | 100 | 2861 | 11685 | 1.80 | 1.80 | 9471 | 37877 |  | 100 |
|  | 100 | 2757 | 11823 | 1.78 | 1.83 | 9492 | 37449 |  | 100 |
|  | 99  | 3107 | 11929 | 1.88 | 1.87 | 9763 | 36880 |  | 100 |
|  | 100 | 3002 | 11921 | 1.88 | 1.83 | 9258 | 37495 |  | 100 |
|  | 97  | 3244 | 11580 | 1.97 | 1.81 | 9484 | 37422 |  | 100 |
|  | 98  | 3103 | 11767 | 1.93 | 1.83 | 9590 | 37307 |  | 100 |
|  | 99  | 2994 | 11568 | 1.88 | 1.79 | 9393 | 37697 |  | 100 |
|  | 100 | 2787 | 11074 | 1.76 | 1.75 | 9407 | 37436 |  | 100 |
|  | 100 | 3058 | 12862 | 1.89 | 1.95 | 9532 | 37738 |  | 100 |
|  | 99  | 2939 | 12303 | 1.84 | 1.88 | 9482 | 38004 |  | 100 |
|  | 100 | 2771 | 11804 | 1.78 | 1.82 | 9182 | 38172 |  | 100 |
|  | 99  | 2853 | 11727 | 1.78 | 1.81 | 9595 | 37746 |  | 100 |
|  | 99  | 3054 | 11957 | 1.92 | 1.84 | 9301 | 37636 |  | 100 |
|  | 98  | 2728 | 12597 | 1.73 | 1.88 | 9594 | 38500 |  | 100 |
|  | 98  | 3019 | 12493 | 1.89 | 1.90 | 9672 | 37739 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2955 | 12465 | 1.90 | 1.89 | 9250 | 38200 |  | 100 |
|  | 100 | 2759 | 10969 | 1.73 | 1.75 | 9547 | 36822 |  | 100 |
|  | 100 | 2616 | 11615 | 1.73 | 1.84 | 9234 | 36876 |  | 100 |
|  | 99  | 2811 | 11798 | 1.78 | 1.81 | 9499 | 38040 |  | 100 |
|  | 100 | 2902 | 11859 | 1.85 | 1.85 | 9238 | 37325 |  | 100 |
|  | 100 | 2737 | 11624 | 1.76 | 1.80 | 9236 | 37795 |  | 100 |
|  | 99  | 2939 | 11989 | 1.83 | 1.82 | 9554 | 38443 |  | 100 |
|  | 99  | 2976 | 12253 | 1.88 | 1.85 | 9471 | 38076 |  | 100 |
|  | 100 | 2639 | 13140 | 1.69 | 1.95 | 9629 | 38631 |  | 100 |
|  | 97  | 2931 | 11350 | 1.82 | 1.81 | 9414 | 36323 |  | 100 |
|  | 100 | 2693 | 11708 | 1.74 | 1.79 | 9312 | 38246 |  | 100 |
|  | 98  | 3106 | 11182 | 1.87 | 1.77 | 9702 | 37066 |  | 100 |
|  | 99  | 3031 | 12237 | 1.90 | 1.87 | 9157 | 37486 |  | 100 |
|  | 100 | 2788 | 12395 | 1.79 | 1.92 | 9374 | 37616 |  | 100 |
|  | 99  | 2995 | 12110 | 1.86 | 1.86 | 9533 | 37998 |  | 100 |
|  | 98  | 2823 | 10945 | 1.81 | 1.74 | 9205 | 37151 |  | 100 |
|  | 100 | 2843 | 12064 | 1.79 | 1.83 | 9469 | 37883 |  | 100 |
|  | 99  | 2801 | 11995 | 1.79 | 1.87 | 9415 | 37185 |  | 100 |
|  | 99  | 2958 | 11551 | 1.83 | 1.81 | 9595 | 37351 |  | 100 |
|  | 99  | 2773 | 12406 | 1.75 | 1.86 | 9549 | 38259 |  | 100 |
|  | 99  | 3033 | 12041 | 1.86 | 1.87 | 9569 | 36914 |  | 100 |
|  | 97  | 2755 | 12341 | 1.78 | 1.87 | 9203 | 38163 |  | 100 |
|  | 99  | 2938 | 11462 | 1.86 | 1.79 | 9428 | 37389 |  | 100 |
|  | 99  | 2918 | 11852 | 1.81 | 1.83 | 9646 | 37445 |  | 100 |
|  | 97  | 2963 | 11414 | 1.81 | 1.82 | 9711 | 36950 |  | 100 |
|  | 98  | 2765 | 11894 | 1.78 | 1.85 | 9377 | 37463 |  | 100 |
|  | 100 | 2780 | 12494 | 1.79 | 1.89 | 9259 | 38232 |  | 100 |
|  | 100 | 3041 | 12401 | 1.89 | 1.89 | 9389 | 38079 |  | 100 |
|  | 99  | 3016 | 11533 | 1.83 | 1.78 | 9668 | 38058 |  | 100 |
|  | 99  | 2883 | 11978 | 1.80 | 1.83 | 9340 | 37754 |  | 100 |
|  | 99  | 3085 | 11915 | 1.87 | 1.84 | 9690 | 37646 |  | 100 |
|  | 98  | 2996 | 10768 | 1.84 | 1.72 | 9505 | 37039 |  | 100 |
|  | 99  | 2776 | 11486 | 1.76 | 1.78 | 9321 | 38331 |  | 100 |
|  | 100 | 2892 | 11728 | 1.82 | 1.81 | 9365 | 38224 |  | 100 |
|  | 100 | 3096 | 12306 | 1.89 | 1.89 | 9520 | 36893 |  | 100 |
|  | 99  | 2820 | 12043 | 1.84 | 1.85 | 9192 | 37975 |  | 100 |
|  | 99  | 3013 | 11294 | 1.89 | 1.79 | 9503 | 37280 |  | 100 |
|  | 100 | 3166 | 11735 | 1.97 | 1.85 | 9471 | 37047 |  | 100 |
|  | 99  | 3034 | 12299 | 1.84 | 1.88 | 9687 | 38058 |  | 100 |
|  | 100 | 2934 | 11875 | 1.85 | 1.84 | 9382 | 37671 |  | 100 |
|  | 99  | 2976 | 11939 | 1.86 | 1.85 | 9298 | 37267 |  | 100 |
|  | 99  | 3005 | 11196 | 1.90 | 1.79 | 9261 | 36133 |  | 100 |
|  | 99  | 2889 | 11802 | 1.85 | 1.84 | 9274 | 36859 |  | 100 |
|  | 98  | 2839 | 11253 | 1.75 | 1.77 | 9622 | 37442 |  | 100 |
|  | 100 | 2746 | 12038 | 1.73 | 1.88 | 9612 | 36706 |  | 100 |
|  | 100 | 2868 | 11976 | 1.77 | 1.83 | 9632 | 38021 |  | 100 |
|  | 99  | 2987 | 11326 | 1.87 | 1.79 | 9527 | 37658 |  | 100 |
|  | 96  | 2941 | 11708 | 1.84 | 1.84 | 9528 | 37385 |  | 100 |
|  | 98  | 2936 | 11335 | 1.79 | 1.80 | 9609 | 36449 |  | 100 |
|  | 99  | 3129 | 12272 | 1.94 | 1.89 | 9495 | 37511 |  | 100 |
|  | 99  | 3106 | 11648 | 1.93 | 1.80 | 9394 | 37553 |  | 100 |
|  | 100 | 2931 | 11712 | 1.80 | 1.80 | 9657 | 37641 |  | 100 |
|  | 100 | 3073 | 11379 | 1.93 | 1.75 | 9230 | 38085 |  | 100 |
|  | 99  | 2841 | 11715 | 1.80 | 1.80 | 9535 | 37793 |  | 100 |
|  | 100 | 2601 | 11755 | 1.70 | 1.84 | 9244 | 37461 |  | 100 |
|  | 99  | 2646 | 12107 | 1.74 | 1.86 | 9072 | 37764 |  | 100 |
|  | 98  | 2873 | 11795 | 1.81 | 1.84 | 9425 | 37547 |  | 100 |
|  | 98  | 2946 | 11518 | 1.86 | 1.81 | 9607 | 37131 |  | 100 |
|  | 98  | 2840 | 12182 | 1.83 | 1.92 | 9181 | 37125 |  | 100 |
|  | 99  | 2708 | 11950 | 1.73 | 1.88 | 9284 | 36527 |  | 100 |
|  | 99  | 2807 | 11939 | 1.76 | 1.85 | 9582 | 37088 |  | 100 |
|  | 98  | 2904 | 12247 | 1.82 | 1.90 | 9427 | 36792 |  | 100 |
|  | 98  | 2957 | 11272 | 1.85 | 1.78 | 9416 | 37238 |  | 100 |
|  | 99  | 2957 | 11201 | 1.88 | 1.74 | 9230 | 37876 |  | 100 |
|  | 99  | 2823 | 11863 | 1.79 | 1.85 | 9388 | 37408 |  | 100 |
|  | 99  | 2814 | 12470 | 1.80 | 1.88 | 9292 | 38262 |  | 100 |
|  | 99  | 2908 | 12324 | 1.87 | 1.88 | 9124 | 37636 |  | 100 |
|  | 100 | 2776 | 11808 | 1.77 | 1.84 | 9408 | 37355 |  | 100 |
|  | 100 | 2693 | 12038 | 1.75 | 1.83 | 9312 | 38387 |  | 100 |
|  | 100 | 3033 | 11766 | 1.86 | 1.82 | 9553 | 37575 |  | 100 |
|  | 100 | 2836 | 11762 | 1.80 | 1.80 | 9462 | 38131 |  | 100 |
|  | 100 | 2820 | 11537 | 1.77 | 1.80 | 9427 | 37056 |  | 100 |
|  | 100 | 2682 | 11574 | 1.74 | 1.79 | 9160 | 37443 |  | 100 |
|  | 100 | 3008 | 12020 | 1.85 | 1.88 | 9554 | 37453 |  | 100 |
|  | 99  | 2992 | 11594 | 1.89 | 1.78 | 9429 | 37968 |  | 100 |
|  | 99  | 2818 | 11722 | 1.78 | 1.82 | 9490 | 37173 |  | 100 |
|  | 100 | 2886 | 12404 | 1.83 | 1.89 | 9426 | 37582 |  | 100 |
|  | 98  | 3085 | 12479 | 1.92 | 1.90 | 9449 | 37897 |  | 100 |
|  | 100 | 2603 | 11788 | 1.71 | 1.82 | 9099 | 37391 |  | 100 |
|  | 99  | 3016 | 11220 | 1.89 | 1.77 | 9374 | 37275 |  | 100 |
|  | 98  | 3005 | 12079 | 1.86 | 1.87 | 9630 | 37925 |  | 100 |
|  | 99  | 2872 | 11721 | 1.81 | 1.84 | 9271 | 37412 |  | 100 |
|  | 100 | 2913 | 12581 | 1.86 | 1.94 | 9468 | 37725 |  | 100 |
|  | 99  | 3123 | 12423 | 1.92 | 1.90 | 9477 | 38037 |  | 100 |
|  | 100 | 2940 | 12747 | 1.86 | 1.92 | 9326 | 38306 |  | 100 |
|  | 100 | 2949 | 11912 | 1.86 | 1.85 | 9376 | 37409 |  | 100 |
|  | 99  | 2855 | 12196 | 1.82 | 1.82 | 9444 | 38588 |  | 100 |
|  | 100 | 2895 | 11903 | 1.82 | 1.82 | 9350 | 37777 |  | 100 |
|  | 98  | 2935 | 12450 | 1.89 | 1.87 | 9190 | 38361 |  | 100 |
|  | 97  | 3070 | 11499 | 1.88 | 1.81 | 9401 | 36940 |  | 100 |
|  | 100 | 2814 | 11366 | 1.76 | 1.82 | 9519 | 36525 |  | 100 |
|  | 100 | 2791 | 11851 | 1.79 | 1.80 | 9377 | 38049 |  | 100 |
|  | 100 | 2962 | 12546 | 1.86 | 1.91 | 9468 | 37537 |  | 100 |
|  | 99  | 2950 | 11344 | 1.86 | 1.80 | 9293 | 36510 |  | 100 |
|  | 99  | 2865 | 12019 | 1.81 | 1.84 | 9309 | 37871 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2897 | 12305 | 1.85 | 1.90 | 9292 | 37487 |  | 100 |
|  | 98  | 2958 | 12093 | 1.81 | 1.88 | 9600 | 37019 |  | 100 |
|  | 99  | 2819 | 12076 | 1.76 | 1.86 | 9671 | 37653 |  | 100 |
|  | 98  | 2852 | 11346 | 1.79 | 1.80 | 9664 | 37118 |  | 100 |
|  | 99  | 2742 | 11908 | 1.73 | 1.87 | 9672 | 36489 |  | 100 |
|  | 99  | 2754 | 11243 | 1.75 | 1.78 | 9595 | 37602 |  | 100 |
|  | 99  | 2962 | 11881 | 1.83 | 1.84 | 9618 | 37445 |  | 100 |
|  | 100 | 3004 | 11675 | 1.83 | 1.84 | 9832 | 37216 |  | 100 |
|  | 99  | 2807 | 11837 | 1.82 | 1.83 | 9110 | 37374 |  | 100 |
|  | 100 | 2814 | 11520 | 1.84 | 1.79 | 9195 | 37283 |  | 100 |
|  | 100 | 2846 | 11137 | 1.80 | 1.78 | 9463 | 37070 |  | 100 |
|  | 99  | 2892 | 12531 | 1.84 | 1.90 | 9442 | 37998 |  | 100 |
|  | 98  | 2786 | 11950 | 1.81 | 1.85 | 9245 | 37449 |  | 100 |
|  | 100 | 2978 | 12597 | 1.87 | 1.90 | 9385 | 38349 |  | 100 |
|  | 99  | 2942 | 11906 | 1.78 | 1.84 | 9808 | 37573 |  | 100 |
|  | 99  | 2958 | 12175 | 1.86 | 1.88 | 9372 | 37112 |  | 100 |
|  | 100 | 2901 | 12058 | 1.83 | 1.87 | 9508 | 37336 |  | 100 |
|  | 99  | 2810 | 11399 | 1.78 | 1.77 | 9333 | 37453 |  | 100 |
|  | 99  | 2827 | 11701 | 1.77 | 1.79 | 9481 | 38069 |  | 100 |
|  | 98  | 3071 | 11922 | 1.88 | 1.86 | 9464 | 37204 |  | 100 |
|  | 98  | 3022 | 11932 | 1.89 | 1.86 | 9234 | 37022 |  | 100 |
|  | 100 | 2939 | 11310 | 1.79 | 1.77 | 9687 | 37982 |  | 100 |
|  | 99  | 3112 | 12361 | 1.89 | 1.91 | 9578 | 37689 |  | 100 |
|  | 100 | 3087 | 12303 | 1.93 | 1.88 | 9369 | 37774 |  | 100 |
|  | 100 | 2841 | 12009 | 1.80 | 1.84 | 9381 | 37758 |  | 100 |
|  | 100 | 2702 | 11840 | 1.77 | 1.85 | 9184 | 37195 |  | 100 |
|  | 98  | 2760 | 12154 | 1.79 | 1.89 | 9202 | 37202 |  | 100 |
|  | 99  | 3002 | 11580 | 1.83 | 1.86 | 9648 | 36734 |  | 100 |
|  | 99  | 2961 | 11843 | 1.84 | 1.84 | 9403 | 36961 |  | 100 |
|  | 99  | 2973 | 11359 | 1.87 | 1.79 | 9318 | 37130 |  | 100 |
|  | 98  | 2971 | 11745 | 1.84 | 1.86 | 9580 | 36786 |  | 100 |
|  | 100 | 3174 | 11275 | 1.95 | 1.77 | 9642 | 37827 |  | 100 |
|  | 99  | 3142 | 11690 | 1.90 | 1.82 | 9593 | 37587 |  | 100 |
|  | 98  | 3055 | 11991 | 1.92 | 1.84 | 9201 | 37641 |  | 100 |
|  | 99  | 2822 | 12132 | 1.78 | 1.86 | 9358 | 37784 |  | 100 |
|  | 97  | 2942 | 11727 | 1.85 | 1.81 | 9558 | 37427 |  | 100 |
|  | 100 | 2909 | 11788 | 1.84 | 1.81 | 9260 | 37552 |  | 100 |
|  | 100 | 2944 | 12849 | 1.83 | 1.95 | 9385 | 38216 |  | 100 |
|  | 100 | 2774 | 12244 | 1.77 | 1.86 | 9340 | 38022 |  | 100 |
|  | 99  | 2987 | 11501 | 1.85 | 1.79 | 9422 | 37481 |  | 100 |
|  | 99  | 2849 | 12032 | 1.79 | 1.85 | 9312 | 37770 |  | 100 |
|  | 100 | 2766 | 12170 | 1.75 | 1.81 | 9309 | 38701 |  | 100 |
|  | 100 | 2805 | 11950 | 1.73 | 1.80 | 9975 | 38467 |  | 100 |
|  | 98  | 3064 | 11997 | 1.91 | 1.82 | 9425 | 38857 |  | 100 |
|  | 99  | 3135 | 11466 | 1.93 | 1.83 | 9621 | 37074 |  | 100 |
|  | 99  | 2863 | 11730 | 1.79 | 1.83 | 9405 | 37278 |  | 100 |
|  | 98  | 3066 | 11967 | 1.90 | 1.85 | 9468 | 37659 |  | 100 |
|  | 100 | 2695 | 12222 | 1.74 | 1.90 | 9363 | 36935 |  | 100 |
|  | 100 | 2791 | 12016 | 1.78 | 1.89 | 9182 | 36977 |  | 100 |
|  | 100 | 2879 | 11444 | 1.76 | 1.82 | 9701 | 36405 |  | 100 |
|  | 99  | 3004 | 12157 | 1.88 | 1.92 | 9566 | 36621 |  | 100 |
|  | 99  | 2941 | 10788 | 1.81 | 1.74 | 9623 | 36720 |  | 100 |
|  | 98  | 2799 | 11734 | 1.85 | 1.81 | 8901 | 37414 |  | 100 |
|  | 100 | 2800 | 12094 | 1.75 | 1.88 | 9427 | 37498 |  | 100 |
|  | 100 | 2875 | 11517 | 1.79 | 1.78 | 9663 | 37597 |  | 100 |
|  | 99  | 2991 | 11939 | 1.86 | 1.87 | 9563 | 36590 |  | 100 |
|  | 100 | 2916 | 12397 | 1.81 | 1.84 | 9514 | 39027 |  | 100 |
|  | 100 | 2778 | 12075 | 1.80 | 1.85 | 9242 | 38261 |  | 100 |
|  | 99  | 2841 | 11645 | 1.81 | 1.84 | 9432 | 36685 |  | 100 |
|  | 99  | 2718 | 12113 | 1.75 | 1.85 | 9452 | 37376 |  | 100 |
|  | 99  | 2996 | 11940 | 1.88 | 1.88 | 9308 | 36568 |  | 100 |
|  | 99  | 2927 | 12220 | 1.79 | 1.85 | 9615 | 38115 |  | 100 |
|  | 100 | 2850 | 12206 | 1.83 | 1.87 | 9132 | 37275 |  | 100 |
|  | 100 | 2913 | 11454 | 1.84 | 1.79 | 9435 | 37338 |  | 100 |
|  | 100 | 2856 | 11871 | 1.82 | 1.80 | 9379 | 38370 |  | 100 |
|  | 97  | 2991 | 11882 | 1.87 | 1.82 | 9385 | 38079 |  | 100 |
|  | 98  | 2875 | 11976 | 1.85 | 1.88 | 9186 | 37193 |  | 100 |
|  | 100 | 2997 | 12319 | 1.83 | 1.88 | 9605 | 37973 |  | 100 |
|  | 99  | 2915 | 12356 | 1.85 | 1.91 | 9167 | 37295 |  | 100 |
|  | 99  | 2950 | 12410 | 1.86 | 1.91 | 9382 | 37359 |  | 100 |
|  | 100 | 2869 | 11003 | 1.81 | 1.74 | 9520 | 37117 |  | 100 |
|  | 100 | 3040 | 11540 | 1.89 | 1.80 | 9324 | 37439 |  | 100 |
|  | 98  | 2900 | 11625 | 1.80 | 1.76 | 9563 | 38568 |  | 100 |
|  | 99  | 2924 | 11483 | 1.85 | 1.80 | 9295 | 37261 |  | 100 |
|  | 100 | 3029 | 11988 | 1.88 | 1.84 | 9474 | 37781 |  | 100 |
|  | 100 | 2875 | 12193 | 1.85 | 1.88 | 9136 | 37609 |  | 100 |
|  | 100 | 2785 | 11658 | 1.76 | 1.80 | 9438 | 37914 |  | 100 |
|  | 98  | 2946 | 11473 | 1.89 | 1.79 | 9258 | 37377 |  | 100 |
|  | 99  | 2945 | 11989 | 1.87 | 1.84 | 9273 | 37772 |  | 100 |
|  | 100 | 2829 | 12037 | 1.82 | 1.84 | 9331 | 37783 |  | 100 |
|  | 99  | 2982 | 12385 | 1.81 | 1.86 | 9596 | 38289 |  | 100 |
|  | 100 | 2733 | 11702 | 1.75 | 1.87 | 9438 | 36516 |  | 100 |
|  | 100 | 2969 | 12206 | 1.84 | 1.90 | 9567 | 37341 |  | 100 |
|  | 96  | 3045 | 11693 | 1.87 | 1.82 | 9678 | 37190 |  | 100 |
|  | 100 | 2956 | 11359 | 1.86 | 1.82 | 9397 | 36387 |  | 100 |
|  | 100 | 2803 | 11561 | 1.82 | 1.84 | 9344 | 36868 |  | 100 |
|  | 100 | 2838 | 12051 | 1.76 | 1.85 | 9523 | 37562 |  | 100 |
|  | 99  | 2838 | 10867 | 1.79 | 1.71 | 9441 | 37784 |  | 100 |
|  | 100 | 2997 | 12087 | 1.86 | 1.82 | 9462 | 38713 |  | 100 |
|  | 100 | 2893 | 11599 | 1.85 | 1.79 | 9143 | 37993 |  | 100 |
|  | 98  | 2901 | 11186 | 1.82 | 1.77 | 9470 | 36781 |  | 100 |
|  | 100 | 2867 | 11904 | 1.78 | 1.88 | 9437 | 36597 |  | 100 |
|  | 100 | 3022 | 11681 | 1.88 | 1.81 | 9451 | 37334 |  | 100 |
|  | 100 | 2833 | 12164 | 1.81 | 1.85 | 9403 | 37858 |  | 100 |
|  | 99  | 3017 | 11916 | 1.82 | 1.85 | 9762 | 37390 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2972 | 11153 | 1.87 | 1.76 | 9413 | 37256 | 100 |
|  | 98  | 2997 | 11977 | 1.88 | 1.88 | 9233 | 36873 | 100 |
|  | 99  | 2978 | 10858 | 1.87 | 1.73 | 9535 | 37283 | 100 |
|  | 97  | 2846 | 11582 | 1.80 | 1.83 | 9414 | 36839 | 100 |
|  | 100 | 2796 | 11224 | 1.77 | 1.77 | 9476 | 37105 | 100 |
|  | 98  | 2844 | 11738 | 1.82 | 1.87 | 9239 | 36802 | 100 |
|  | 98  | 3132 | 11648 | 1.95 | 1.81 | 9573 | 37391 | 100 |
|  | 100 | 3089 | 11459 | 1.88 | 1.80 | 9615 | 37456 | 100 |
|  | 100 | 2864 | 11802 | 1.79 | 1.84 | 9453 | 36995 | 100 |
|  | 99  | 3028 | 11710 | 1.84 | 1.83 | 9753 | 37329 | 100 |
|  | 98  | 2811 | 12180 | 1.79 | 1.87 | 9535 | 37815 | 100 |
|  | 100 | 2938 | 11080 | 1.84 | 1.77 | 9525 | 37473 | 100 |
|  | 100 | 2889 | 12140 | 1.86 | 1.84 | 9137 | 38212 | 100 |
|  | 98  | 2846 | 11612 | 1.85 | 1.81 | 9194 | 37294 | 100 |
|  | 100 | 2859 | 12460 | 1.78 | 1.89 | 9434 | 37514 | 100 |
|  | 98  | 2976 | 11711 | 1.87 | 1.83 | 9427 | 37690 | 100 |
|  | 97  | 3009 | 12266 | 1.90 | 1.87 | 9462 | 37790 | 100 |
|  | 100 | 2970 | 11929 | 1.83 | 1.81 | 9636 | 38837 | 100 |
|  | 98  | 2860 | 12701 | 1.79 | 1.90 | 9497 | 38360 | 100 |
|  | 99  | 2891 | 12081 | 1.82 | 1.88 | 9318 | 37295 | 100 |
|  | 99  | 2855 | 11531 | 1.83 | 1.84 | 9100 | 36622 | 100 |
|  | 100 | 2938 | 12246 | 1.81 | 1.86 | 9819 | 38275 | 100 |
|  | 100 | 2782 | 12102 | 1.80 | 1.86 | 9140 | 37438 | 100 |
|  | 99  | 2995 | 12109 | 1.82 | 1.86 | 9869 | 37548 | 100 |
|  | 99  | 2840 | 11701 | 1.82 | 1.83 | 9359 | 37337 | 100 |
|  | 100 | 2780 | 11343 | 1.80 | 1.75 | 9122 | 38184 | 100 |
|  | 100 | 2792 | 11877 | 1.83 | 1.88 | 9311 | 36467 | 100 |
|  | 99  | 2839 | 11990 | 1.83 | 1.87 | 9182 | 37830 | 100 |
|  | 99  | 2622 | 11942 | 1.72 | 1.82 | 9332 | 37837 | 100 |
|  | 100 | 3024 | 12270 | 1.87 | 1.86 | 9402 | 38081 | 100 |
|  | 100 | 2913 | 10997 | 1.88 | 1.79 | 9169 | 36343 | 100 |
|  | 100 | 2982 | 11512 | 1.88 | 1.82 | 9194 | 37322 | 100 |
|  | 100 | 2850 | 11758 | 1.85 | 1.86 | 9232 | 36751 | 100 |
|  | 100 | 2880 | 12334 | 1.79 | 1.87 | 9594 | 37845 | 100 |
|  | 100 | 2942 | 11394 | 1.79 | 1.78 | 9743 | 37666 | 100 |
|  | 99  | 2953 | 11601 | 1.82 | 1.86 | 9577 | 36387 | 100 |
|  | 100 | 2805 | 12224 | 1.79 | 1.86 | 9277 | 37691 | 100 |
|  | 100 | 2895 | 12729 | 1.84 | 1.90 | 9295 | 38507 | 100 |
|  | 100 | 2925 | 12615 | 1.85 | 1.91 | 9534 | 37828 | 100 |
|  | 100 | 2788 | 12675 | 1.79 | 1.90 | 9411 | 38056 | 100 |
|  | 100 | 2930 | 11584 | 1.84 | 1.77 | 9451 | 38137 | 100 |
|  | 99  | 2809 | 11527 | 1.79 | 1.80 | 9488 | 37113 | 100 |
|  | 100 | 3071 | 12117 | 1.84 | 1.86 | 9756 | 37661 | 100 |
|  | 100 | 2593 | 12183 | 1.70 | 1.87 | 9156 | 37903 | 100 |
|  | 99  | 2906 | 11763 | 1.77 | 1.77 | 9734 | 38669 | 100 |
|  | 99  | 2854 | 12585 | 1.82 | 1.94 | 9218 | 36979 | 100 |
|  | 99  | 3032 | 11980 | 1.85 | 1.84 | 9721 | 37769 | 100 |
|  | 100 | 2880 | 11597 | 1.87 | 1.85 | 9398 | 36290 | 100 |
|  | 100 | 2954 | 11740 | 1.81 | 1.82 | 9757 | 37249 | 100 |
|  | 99  | 2727 | 11798 | 1.77 | 1.85 | 9230 | 37519 | 100 |
|  | 100 | 2970 | 11537 | 1.83 | 1.82 | 9490 | 37185 | 100 |
|  | 100 | 2824 | 11834 | 1.78 | 1.84 | 9422 | 37363 | 100 |
|  | 100 | 2982 | 12473 | 1.87 | 1.91 | 9429 | 37533 | 100 |
|  | 100 | 3012 | 11695 | 1.88 | 1.85 | 9399 | 36168 | 100 |
|  | 99  | 2981 | 11664 | 1.87 | 1.83 | 9416 | 37214 | 100 |
|  | 100 | 2911 | 12143 | 1.82 | 1.88 | 9469 | 37276 | 100 |
|  | 100 | 2972 | 11810 | 1.86 | 1.84 | 9574 | 37358 | 100 |
|  | 100 | 3098 | 12435 | 1.95 | 1.91 | 9438 | 37447 | 100 |
|  | 100 | 2954 | 11406 | 1.84 | 1.78 | 9529 | 37695 | 100 |
|  | 100 | 3071 | 11818 | 1.90 | 1.87 | 9426 | 37079 | 100 |
|  | 99  | 2766 | 11981 | 1.75 | 1.87 | 9582 | 37436 | 100 |
|  | 100 | 2883 | 12217 | 1.84 | 1.86 | 9519 | 37838 | 100 |
|  | 100 | 2941 | 12418 | 1.86 | 1.91 | 9388 | 37305 | 100 |
|  | 100 | 2949 | 11896 | 1.87 | 1.83 | 9348 | 37666 | 100 |
|  | 100 | 2882 | 12122 | 1.85 | 1.90 | 9144 | 36541 | 100 |
|  | 100 | 2867 | 11496 | 1.80 | 1.79 | 9641 | 37463 | 100 |
|  | 100 | 2722 | 11806 | 1.78 | 1.86 | 9211 | 36739 | 100 |
|  | 99  | 2831 | 12264 | 1.77 | 1.89 | 9562 | 37466 | 100 |
|  | 99  | 3179 | 11633 | 1.93 | 1.81 | 9463 | 37383 | 100 |
|  | 98  | 2982 | 11672 | 1.89 | 1.83 | 9297 | 36824 | 100 |
|  | 100 | 2933 | 12136 | 1.80 | 1.85 | 9638 | 38450 | 100 |
|  | 98  | 3069 | 12219 | 1.90 | 1.87 | 9481 | 37865 | 100 |
|  | 100 | 2871 | 11630 | 1.80 | 1.81 | 9435 | 37583 | 100 |
|  | 100 | 2860 | 12018 | 1.79 | 1.87 | 9481 | 37309 | 100 |
|  | 99  | 2949 | 11610 | 1.80 | 1.80 | 9773 | 37534 | 100 |
|  | 99  | 2853 | 11408 | 1.84 | 1.78 | 9336 | 37803 | 100 |
|  | 100 | 2670 | 11742 | 1.70 | 1.80 | 9522 | 37759 | 100 |
|  | 100 | 2918 | 11530 | 1.82 | 1.79 | 9490 | 37562 | 100 |
|  | 100 | 3020 | 11464 | 1.88 | 1.80 | 9409 | 37382 | 100 |
|  | 99  | 2946 | 12204 | 1.84 | 1.85 | 9355 | 38048 | 100 |
|  | 100 | 2817 | 11990 | 1.79 | 1.81 | 9433 | 38296 | 100 |
|  | 100 | 2993 | 11845 | 1.85 | 1.82 | 9481 | 37719 | 100 |
|  | 99  | 2845 | 11931 | 1.79 | 1.83 | 9416 | 37761 | 100 |
|  | 100 | 2718 | 12635 | 1.75 | 1.90 | 9224 | 38401 | 100 |
|  | 99  | 2992 | 11535 | 1.84 | 1.84 | 9525 | 36374 | 100 |
|  | 100 | 2906 | 11266 | 1.81 | 1.75 | 9484 | 37795 | 100 |
|  | 98  | 3020 | 11611 | 1.89 | 1.79 | 9409 | 38046 | 100 |
|  | 100 | 2697 | 11730 | 1.75 | 1.84 | 9118 | 37774 | 100 |
|  | 99  | 3048 | 12099 | 1.90 | 1.87 | 9455 | 37126 | 100 |
|  | 100 | 3089 | 11833 | 1.90 | 1.82 | 9340 | 37743 | 100 |
|  | 99  | 2934 | 11863 | 1.87 | 1.83 | 9324 | 37532 | 100 |
|  | 99  | 2980 | 11599 | 1.86 | 1.80 | 9396 | 38217 | 100 |
|  | 100 | 2761 | 11334 | 1.74 | 1.79 | 9520 | 37584 | 100 |
|  | 100 | 2963 | 11943 | 1.89 | 1.81 | 9236 | 38224 | 100 |
|  | 100 | 2770 | 11671 | 1.76 | 1.84 | 9414 | 37241 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 3014 | 12114 | 1.88 | 1.84 | 9204 | 38341 |  | 100 |
|  | 100 | 2952 | 12213 | 1.87 | 1.83 | 9310 | 38439 |  | 100 |
|  | 100 | 3022 | 11160 | 1.86 | 1.80 | 9730 | 35949 |  | 100 |
|  | 100 | 2773 | 12216 | 1.75 | 1.88 | 9269 | 37691 |  | 100 |
|  | 100 | 2938 | 11518 | 1.86 | 1.78 | 9415 | 37573 |  | 100 |
|  | 99  | 2917 | 12036 | 1.84 | 1.86 | 9350 | 37651 |  | 100 |
|  | 100 | 2795 | 12161 | 1.82 | 1.85 | 9080 | 37764 |  | 100 |
|  | 99  | 2987 | 11462 | 1.84 | 1.83 | 9564 | 36951 |  | 100 |
|  | 98  | 3082 | 10804 | 1.87 | 1.76 | 9462 | 36460 |  | 100 |
|  | 100 | 2856 | 12512 | 1.79 | 1.89 | 9543 | 38211 |  | 100 |
|  | 99  | 3131 | 11835 | 1.90 | 1.86 | 9491 | 36917 |  | 100 |
|  | 100 | 2858 | 12349 | 1.80 | 1.87 | 9639 | 38061 |  | 100 |
|  | 99  | 2981 | 11352 | 1.85 | 1.79 | 9534 | 36965 |  | 100 |
|  | 99  | 2911 | 11967 | 1.84 | 1.86 | 9330 | 37257 |  | 100 |
|  | 99  | 2853 | 11775 | 1.77 | 1.85 | 9551 | 36973 |  | 100 |
|  | 100 | 2907 | 11633 | 1.84 | 1.79 | 9130 | 37705 |  | 100 |
|  | 99  | 3067 | 11634 | 1.87 | 1.83 | 9536 | 36946 |  | 100 |
|  | 100 | 2956 | 11618 | 1.82 | 1.81 | 9542 | 37282 |  | 100 |
|  | 99  | 3141 | 11673 | 1.85 | 1.88 | 9825 | 36000 |  | 100 |
|  | 100 | 2860 | 11836 | 1.80 | 1.85 | 9281 | 37110 |  | 100 |
|  | 100 | 2905 | 12057 | 1.82 | 1.87 | 9421 | 37606 |  | 100 |
|  | 100 | 2876 | 12196 | 1.80 | 1.90 | 9421 | 37198 |  | 100 |
|  | 100 | 2964 | 11838 | 1.85 | 1.85 | 9492 | 37327 |  | 100 |
|  | 100 | 2958 | 11987 | 1.88 | 1.84 | 9173 | 37738 |  | 100 |
|  | 100 | 2970 | 11696 | 1.87 | 1.84 | 9285 | 37300 |  | 100 |
|  | 100 | 2764 | 12532 | 1.75 | 1.95 | 9346 | 37210 |  | 100 |
|  | 100 | 2948 | 11578 | 1.84 | 1.80 | 9356 | 37100 |  | 100 |
|  | 100 | 2864 | 11898 | 1.84 | 1.84 | 9385 | 37391 |  | 100 |
|  | 100 | 3019 | 11897 | 1.88 | 1.83 | 9397 | 37792 |  | 100 |
|  | 99  | 2950 | 11773 | 1.82 | 1.82 | 9608 | 37635 |  | 100 |
|  | 99  | 2918 | 11543 | 1.82 | 1.80 | 9379 | 37284 |  | 100 |
|  | 100 | 2824 | 12021 | 1.78 | 1.86 | 9515 | 37403 |  | 100 |
|  | 100 | 2817 | 11632 | 1.79 | 1.80 | 9355 | 37627 |  | 100 |
|  | 99  | 2841 | 12429 | 1.77 | 1.90 | 9571 | 37903 |  | 100 |
|  | 98  | 2889 | 11537 | 1.81 | 1.80 | 9403 | 36790 |  | 100 |
|  | 100 | 2853 | 12859 | 1.82 | 1.94 | 9119 | 37886 |  | 100 |
|  | 99  | 3006 | 12186 | 1.82 | 1.87 | 9743 | 37902 |  | 100 |
|  | 99  | 3030 | 11527 | 1.85 | 1.81 | 9524 | 38377 |  | 100 |
|  | 100 | 2814 | 11600 | 1.80 | 1.82 | 9342 | 37635 |  | 100 |
|  | 100 | 2959 | 11983 | 1.80 | 1.86 | 9549 | 37092 |  | 100 |
|  | 100 | 2835 | 12071 | 1.79 | 1.87 | 9396 | 37194 |  | 100 |
|  | 100 | 2841 | 12221 | 1.82 | 1.86 | 9290 | 37895 |  | 100 |
|  | 99  | 3128 | 12046 | 1.88 | 1.91 | 9720 | 37202 |  | 100 |
|  | 100 | 2961 | 12129 | 1.83 | 1.86 | 9506 | 37444 |  | 100 |
|  | 99  | 3061 | 11840 | 1.86 | 1.84 | 9644 | 37380 |  | 100 |
|  | 100 | 2894 | 11853 | 1.86 | 1.80 | 9229 | 38132 |  | 100 |
|  | 98  | 2966 | 11901 | 1.83 | 1.87 | 9524 | 36993 |  | 100 |
|  | 100 | 2764 | 11867 | 1.79 | 1.83 | 9168 | 37469 |  | 100 |
|  | 100 | 2867 | 12309 | 1.78 | 1.91 | 9657 | 37159 |  | 100 |
|  | 99  | 2758 | 11145 | 1.75 | 1.77 | 9520 | 37071 |  | 100 |
|  | 98  | 2862 | 11699 | 1.77 | 1.84 | 9868 | 37388 |  | 100 |
|  | 98  | 3066 | 11627 | 1.93 | 1.82 | 9442 | 37570 |  | 100 |
|  | 100 | 2751 | 12173 | 1.80 | 1.84 | 9174 | 37945 |  | 100 |
|  | 100 | 2804 | 12025 | 1.74 | 1.87 | 9625 | 37293 |  | 100 |
|  | 100 | 2898 | 11410 | 1.82 | 1.76 | 9523 | 37602 |  | 100 |
|  | 100 | 2892 | 11798 | 1.82 | 1.80 | 9520 | 38163 |  | 100 |
|  | 100 | 2906 | 12523 | 1.82 | 1.92 | 9383 | 37668 |  | 100 |
|  | 100 | 2902 | 11703 | 1.83 | 1.80 | 9439 | 37752 |  | 100 |
|  | 99  | 2828 | 11623 | 1.81 | 1.81 | 9371 | 37983 |  | 100 |
|  | 99  | 2879 | 12025 | 1.80 | 1.87 | 9529 | 37712 |  | 100 |
|  | 100 | 2927 | 11665 | 1.81 | 1.80 | 9483 | 37646 |  | 100 |
|  | 100 | 2911 | 11752 | 1.82 | 1.83 | 9343 | 37002 |  | 100 |
|  | 100 | 2817 | 11744 | 1.78 | 1.86 | 9440 | 36602 |  | 100 |
|  | 99  | 2777 | 11865 | 1.78 | 1.86 | 9415 | 36501 |  | 100 |
|  | 100 | 3023 | 12073 | 1.84 | 1.88 | 9576 | 37382 |  | 100 |
|  | 100 | 2795 | 11942 | 1.76 | 1.87 | 9479 | 37174 |  | 100 |
|  | 97  | 2956 | 11234 | 1.82 | 1.78 | 9544 | 37400 |  | 100 |
|  | 100 | 3010 | 12009 | 1.86 | 1.86 | 9592 | 37430 |  | 100 |
|  | 99  | 3016 | 11075 | 1.87 | 1.76 | 9624 | 36915 |  | 100 |
|  | 99  | 2937 | 11610 | 1.83 | 1.83 | 9619 | 36770 |  | 100 |
|  | 99  | 3057 | 11713 | 1.89 | 1.85 | 9376 | 36756 |  | 100 |
|  | 98  | 3039 | 12054 | 1.89 | 1.84 | 9409 | 37905 |  | 100 |
|  | 99  | 2914 | 10854 | 1.84 | 1.75 | 9493 | 36683 |  | 100 |
|  | 100 | 2899 | 11776 | 1.81 | 1.84 | 9608 | 37242 |  | 100 |
|  | 100 | 2968 | 11772 | 1.86 | 1.83 | 9402 | 37811 |  | 100 |
|  | 98  | 3012 | 11667 | 1.83 | 1.82 | 9681 | 37388 |  | 100 |
|  | 100 | 2850 | 12142 | 1.80 | 1.88 | 9372 | 37605 |  | 100 |
|  | 99  | 2858 | 11459 | 1.73 | 1.80 | 9739 | 37652 |  | 100 |
|  | 100 | 2671 | 11961 | 1.69 | 1.85 | 9639 | 37426 |  | 100 |
|  | 99  | 3004 | 11604 | 1.89 | 1.80 | 9123 | 37495 |  | 100 |
|  | 100 | 2854 | 12218 | 1.81 | 1.87 | 9411 | 37756 |  | 100 |
|  | 98  | 3141 | 11927 | 1.91 | 1.84 | 9736 | 37848 |  | 100 |
|  | 100 | 2620 | 11572 | 1.70 | 1.81 | 9179 | 37416 |  | 100 |
|  | 97  | 3087 | 12040 | 1.88 | 1.89 | 9587 | 37418 |  | 100 |
|  | 99  | 2880 | 12323 | 1.87 | 1.87 | 9132 | 37880 |  | 100 |
|  | 100 | 2760 | 11888 | 1.79 | 1.84 | 9386 | 37489 |  | 100 |
|  | 100 | 2881 | 11577 | 1.83 | 1.84 | 9392 | 36333 |  | 100 |
|  | 99  | 2951 | 12633 | 1.89 | 1.94 | 9292 | 37572 |  | 100 |
|  | 100 | 2850 | 12405 | 1.80 | 1.88 | 9370 | 37948 |  | 100 |
|  | 99  | 3095 | 11665 | 1.92 | 1.80 | 9470 | 37347 |  | 100 |
|  | 100 | 3045 | 11948 | 1.86 | 1.83 | 9792 | 37854 |  | 100 |
|  | 100 | 2896 | 12093 | 1.78 | 1.86 | 9536 | 37754 |  | 100 |
|  | 100 | 2936 | 11711 | 1.81 | 1.82 | 9483 | 37382 |  | 100 |
|  | 100 | 2966 | 12294 | 1.83 | 1.91 | 9547 | 37073 |  | 100 |
|  | 100 | 2935 | 12215 | 1.84 | 1.89 | 9554 | 37784 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2788 | 12110 | 1.77 | 1.86 | 9442 | 37365 | 100 |
| 99  | 2943 | 11617 | 1.89 | 1.80 | 9219 | 37489 | 100 |
| 99  | 3120 | 11634 | 1.91 | 1.81 | 9648 | 37796 | 100 |
| 99  | 2944 | 11715 | 1.85 | 1.83 | 9441 | 37246 | 100 |
| 100 | 2941 | 11466 | 1.80 | 1.82 | 9519 | 36890 | 100 |
| 100 | 2942 | 12060 | 1.86 | 1.85 | 9302 | 37639 | 100 |
| 100 | 3004 | 11880 | 1.84 | 1.84 | 9652 | 37694 | 100 |
| 99  | 3073 | 11641 | 1.87 | 1.77 | 9629 | 38576 | 100 |
| 100 | 2736 | 12455 | 1.75 | 1.91 | 9356 | 37182 | 100 |
| 99  | 2983 | 12060 | 1.83 | 1.87 | 9635 | 37376 | 100 |
| 100 | 2915 | 11585 | 1.82 | 1.81 | 9419 | 37326 | 100 |
| 99  | 3056 | 11721 | 1.86 | 1.82 | 9673 | 37483 | 100 |
| 99  | 3049 | 11267 | 1.88 | 1.78 | 9476 | 36947 | 100 |
| 99  | 2948 | 11554 | 1.80 | 1.78 | 9795 | 37727 | 100 |
| 99  | 2959 | 11987 | 1.85 | 1.86 | 9611 | 37346 | 100 |
| 100 | 2943 | 11608 | 1.81 | 1.80 | 9574 | 37147 | 100 |
| 100 | 2835 | 12358 | 1.83 | 1.88 | 9161 | 37800 | 100 |
| 100 | 3072 | 11049 | 1.89 | 1.76 | 9608 | 36987 | 100 |
| 99  | 2777 | 12051 | 1.73 | 1.88 | 9598 | 37383 | 100 |
| 100 | 2946 | 11865 | 1.82 | 1.87 | 9416 | 36646 | 100 |
| 99  | 2896 | 11158 | 1.86 | 1.75 | 9243 | 37368 | 100 |
| 99  | 2963 | 12327 | 1.88 | 1.85 | 9321 | 38681 | 100 |
| 99  | 2819 | 11888 | 1.72 | 1.89 | 9858 | 36753 | 100 |
| 100 | 2944 | 11382 | 1.79 | 1.82 | 9731 | 37013 | 100 |
| 100 | 3098 | 11614 | 1.91 | 1.81 | 9485 | 37087 | 100 |
| 98  | 3131 | 11733 | 1.96 | 1.82 | 9421 | 37359 | 100 |
| 100 | 2719 | 11905 | 1.71 | 1.82 | 9486 | 38540 | 100 |
| 98  | 2826 | 11842 | 1.84 | 1.85 | 8974 | 36836 | 100 |
| 99  | 2844 | 11651 | 1.78 | 1.85 | 9296 | 35918 | 100 |
| 100 | 2937 | 11961 | 1.85 | 1.86 | 9308 | 37504 | 100 |
| 100 | 2772 | 12195 | 1.79 | 1.86 | 9066 | 37802 | 100 |
| 99  | 2989 | 11943 | 1.85 | 1.84 | 9514 | 37566 | 100 |
| 100 | 2698 | 11455 | 1.75 | 1.82 | 9207 | 37018 | 100 |
| 99  | 2931 | 12039 | 1.79 | 1.85 | 9758 | 37819 | 100 |
| 100 | 2997 | 12679 | 1.86 | 1.90 | 9469 | 38348 | 100 |
| 99  | 2785 | 12045 | 1.77 | 1.84 | 9470 | 38073 | 100 |
| 100 | 2852 | 11770 | 1.82 | 1.82 | 9342 | 37424 | 100 |
| 100 | 3025 | 12174 | 1.84 | 1.90 | 9693 | 37992 | 100 |
| 99  | 2992 | 12084 | 1.91 | 1.84 | 9325 | 38021 | 100 |
| 99  | 2890 | 11272 | 1.80 | 1.78 | 9519 | 37353 | 100 |
| 100 | 3100 | 12270 | 1.90 | 1.88 | 9606 | 37758 | 100 |
| 100 | 3026 | 11865 | 1.87 | 1.85 | 9385 | 37192 | 100 |
| 100 | 3067 | 11397 | 1.87 | 1.78 | 9552 | 37799 | 100 |
| 100 | 2830 | 11703 | 1.78 | 1.80 | 9441 | 37896 | 100 |
| 97  | 2893 | 12040 | 1.79 | 1.85 | 9550 | 37474 | 100 |
| 100 | 2889 | 12318 | 1.81 | 1.87 | 9448 | 38001 | 100 |
| 100 | 2946 | 11379 | 1.86 | 1.79 | 9258 | 37169 | 100 |
| 100 | 3109 | 11056 | 1.98 | 1.78 | 9239 | 36817 | 100 |
| 99  | 2943 | 11788 | 1.85 | 1.83 | 9400 | 36970 | 100 |
| 100 | 2902 | 11795 | 1.81 | 1.81 | 9692 | 37493 | 100 |
| 100 | 2790 | 12036 | 1.79 | 1.86 | 9268 | 36913 | 100 |
| 100 | 2745 | 11495 | 1.74 | 1.79 | 9423 | 38062 | 100 |
| 99  | 2918 | 11763 | 1.87 | 1.83 | 9073 | 37463 | 100 |
| 99  | 2798 | 12295 | 1.81 | 1.84 | 9328 | 38712 | 100 |
| 99  | 2813 | 11401 | 1.77 | 1.81 | 9483 | 36898 | 100 |
| 100 | 2882 | 12037 | 1.81 | 1.86 | 9373 | 37290 | 100 |
| 99  | 3042 | 12533 | 1.85 | 1.87 | 9683 | 38407 | 100 |
| 100 | 2895 | 11284 | 1.81 | 1.80 | 9369 | 36785 | 100 |
| 100 | 3138 | 12323 | 1.88 | 1.86 | 9642 | 38266 | 100 |
| 99  | 3015 | 12202 | 1.86 | 1.84 | 9537 | 39075 | 100 |
| 100 | 2702 | 11643 | 1.76 | 1.82 | 9157 | 37445 | 100 |
| 100 | 2805 | 11684 | 1.78 | 1.85 | 9476 | 36384 | 100 |
| 100 | 3093 | 12020 | 1.91 | 1.84 | 9478 | 37784 | 100 |
| 100 | 3118 | 12030 | 1.97 | 1.84 | 9564 | 37809 | 100 |
| 100 | 2974 | 12081 | 1.85 | 1.90 | 9477 | 36546 | 100 |
| 100 | 2646 | 11360 | 1.68 | 1.78 | 9416 | 37294 | 100 |
| 98  | 2821 | 11289 | 1.81 | 1.73 | 9264 | 38111 | 100 |
| 100 | 2906 | 12095 | 1.81 | 1.85 | 9606 | 37621 | 100 |
| 100 | 3193 | 12549 | 1.89 | 1.85 | 9865 | 39226 | 100 |
| 99  | 3045 | 12536 | 1.88 | 1.89 | 9625 | 37943 | 100 |
| 100 | 2965 | 12207 | 1.86 | 1.90 | 9248 | 37028 | 100 |
| 99  | 2951 | 11378 | 1.86 | 1.80 | 9340 | 36877 | 100 |
| 100 | 2948 | 12096 | 1.91 | 1.91 | 9234 | 37310 | 100 |
| 100 | 3100 | 12390 | 1.90 | 1.90 | 9462 | 37372 | 100 |
| 100 | 3084 | 11549 | 1.90 | 1.82 | 9465 | 36619 | 100 |
| 100 | 2961 | 11056 | 1.77 | 1.72 | 9819 | 38247 | 100 |
| 100 | 2979 | 12288 | 1.85 | 1.90 | 9396 | 37768 | 100 |
| 99  | 2847 | 12008 | 1.77 | 1.83 | 9637 | 38277 | 100 |
| 99  | 2911 | 11293 | 1.79 | 1.77 | 9527 | 37774 | 100 |
| 100 | 3122 | 12844 | 1.87 | 1.90 | 9851 | 38577 | 100 |
| 99  | 2889 | 11548 | 1.84 | 1.81 | 9246 | 37229 | 100 |
| 100 | 3028 | 12603 | 1.84 | 1.93 | 9664 | 37416 | 100 |
| 99  | 2884 | 11358 | 1.82 | 1.81 | 9376 | 36729 | 100 |
| 100 | 2829 | 11419 | 1.76 | 1.80 | 9642 | 36796 | 100 |
| 99  | 2700 | 12127 | 1.73 | 1.89 | 9214 | 36933 | 100 |
| 99  | 2835 | 11887 | 1.76 | 1.85 | 9805 | 37657 | 100 |
| 100 | 2848 | 12285 | 1.73 | 1.89 | 9937 | 37304 | 100 |
| 99  | 2745 | 12361 | 1.79 | 1.88 | 9113 | 37759 | 100 |
| 100 | 2876 | 11920 | 1.85 | 1.85 | 9247 | 37242 | 100 |
| 98  | 2992 | 11296 | 1.85 | 1.81 | 9476 | 36464 | 100 |
| 98  | 2873 | 12051 | 1.83 | 1.86 | 9294 | 37411 | 100 |
| 99  | 2706 | 12132 | 1.69 | 1.82 | 9573 | 38616 | 100 |
| 100 | 2945 | 11726 | 1.86 | 1.85 | 9261 | 37589 | 100 |
| 98  | 2948 | 11221 | 1.81 | 1.74 | 9639 | 37879 | 100 |
| 100 | 3001 | 11005 | 1.82 | 1.75 | 9791 | 36817 | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2690 | 11981 | 1.74 | 1.86 | 9314 | 37614 | 100 |
| 100 | 3015 | 10682 | 1.87 | 1.73 | 9476 | 37324 | 100 |
| 100 | 2796 | 11272 | 1.79 | 1.78 | 9246 | 37235 | 100 |
| 100 | 2990 | 11745 | 1.86 | 1.81 | 9439 | 37832 | 100 |
| 100 | 2884 | 12333 | 1.83 | 1.88 | 9275 | 38118 | 100 |
| 100 | 2835 | 12040 | 1.80 | 1.83 | 9468 | 38113 | 100 |
| 100 | 2906 | 11072 | 1.76 | 1.74 | 9658 | 37281 | 100 |
| 100 | 2892 | 11949 | 1.83 | 1.85 | 9295 | 37532 | 100 |
| 100 | 2867 | 12114 | 1.79 | 1.86 | 9462 | 37739 | 100 |
| 100 | 2805 | 11919 | 1.81 | 1.82 | 9211 | 38253 | 100 |
| 98  | 2904 | 11948 | 1.84 | 1.81 | 9218 | 38228 | 100 |
| 99  | 3036 | 11663 | 1.86 | 1.86 | 9435 | 36575 | 100 |
| 99  | 3123 | 12153 | 1.89 | 1.87 | 9653 | 37532 | 100 |
| 98  | 2975 | 11435 | 1.81 | 1.75 | 9638 | 38194 | 100 |
| 99  | 2767 | 10874 | 1.76 | 1.73 | 9386 | 37262 | 100 |
| 100 | 2963 | 11657 | 1.88 | 1.85 | 9210 | 36308 | 100 |
| 98  | 2893 | 12357 | 1.79 | 1.86 | 9686 | 38079 | 100 |
| 100 | 2558 | 11537 | 1.65 | 1.76 | 9559 | 38294 | 100 |
| 100 | 2937 | 11679 | 1.85 | 1.88 | 9363 | 36313 | 100 |
| 100 | 2624 | 11629 | 1.74 | 1.82 | 8938 | 37252 | 100 |
| 98  | 3247 | 12447 | 1.94 | 1.91 | 9811 | 37453 | 100 |
| 100 | 2769 | 11256 | 1.76 | 1.79 | 9436 | 37044 | 100 |
| 100 | 2848 | 13081 | 1.86 | 1.95 | 9128 | 38119 | 100 |
| 99  | 3115 | 11521 | 1.89 | 1.79 | 9694 | 37780 | 100 |
| 100 | 3003 | 12441 | 1.92 | 1.90 | 9310 | 37672 | 100 |
| 100 | 2833 | 11660 | 1.82 | 1.84 | 9171 | 36865 | 100 |
| 99  | 2827 | 11375 | 1.78 | 1.77 | 9525 | 37564 | 100 |
| 99  | 2848 | 11343 | 1.81 | 1.80 | 9491 | 36550 | 100 |
| 99  | 2817 | 12004 | 1.76 | 1.83 | 9518 | 37946 | 100 |
| 98  | 3013 | 12370 | 1.85 | 1.88 | 9411 | 37739 | 100 |
| 100 | 2974 | 11882 | 1.86 | 1.86 | 9329 | 36808 | 100 |
| 100 | 2760 | 11632 | 1.79 | 1.81 | 9231 | 37714 | 100 |
| 99  | 2749 | 11312 | 1.70 | 1.78 | 9653 | 37241 | 100 |
| 100 | 2832 | 11635 | 1.81 | 1.81 | 9369 | 37345 | 100 |
| 99  | 2699 | 11606 | 1.71 | 1.78 | 9450 | 37644 | 100 |
| 99  | 2950 | 11773 | 1.81 | 1.84 | 9658 | 37310 | 100 |
| 99  | 2916 | 11849 | 1.80 | 1.80 | 9500 | 37737 | 100 |
| 100 | 2768 | 11902 | 1.75 | 1.90 | 9533 | 36751 | 100 |
| 99  | 3065 | 11460 | 1.89 | 1.82 | 9447 | 36983 | 100 |
| 99  | 2979 | 11107 | 1.84 | 1.75 | 9626 | 37837 | 100 |
| 98  | 2895 | 11517 | 1.82 | 1.80 | 9478 | 37295 | 100 |
| 99  | 2971 | 11941 | 1.85 | 1.85 | 9483 | 37274 | 100 |
| 99  | 2929 | 12311 | 1.86 | 1.91 | 9244 | 37237 | 100 |
| 100 | 2893 | 12109 | 1.79 | 1.87 | 9643 | 37909 | 100 |
| 99  | 3072 | 11887 | 1.93 | 1.83 | 9492 | 38010 | 100 |
| 99  | 2800 | 11776 | 1.75 | 1.83 | 9542 | 37405 | 100 |
| 100 | 2837 | 12061 | 1.80 | 1.87 | 9234 | 37637 | 100 |
| 100 | 2802 | 11915 | 1.76 | 1.85 | 9666 | 37537 | 100 |
| 99  | 2925 | 12173 | 1.83 | 1.85 | 9444 | 38293 | 100 |
| 97  | 3069 | 11586 | 1.88 | 1.79 | 9594 | 38084 | 100 |
| 99  | 2827 | 11804 | 1.77 | 1.85 | 9533 | 37458 | 100 |
| 98  | 3056 | 11807 | 1.88 | 1.84 | 9303 | 37469 | 100 |
| 100 | 2853 | 11695 | 1.80 | 1.83 | 9340 | 37438 | 100 |
| 98  | 2765 | 11781 | 1.71 | 1.82 | 9682 | 37990 | 100 |
| 100 | 2906 | 12019 | 1.82 | 1.83 | 9499 | 38167 | 100 |
| 99  | 3068 | 11706 | 1.89 | 1.83 | 9630 | 37355 | 100 |
| 100 | 2989 | 11945 | 1.86 | 1.84 | 9523 | 37701 | 100 |
| 97  | 3046 | 12266 | 1.96 | 1.86 | 9088 | 38569 | 100 |
| 100 | 3001 | 12529 | 1.82 | 1.91 | 9552 | 37852 | 100 |
| 100 | 2714 | 11603 | 1.73 | 1.82 | 9610 | 37427 | 100 |
| 97  | 2940 | 11218 | 1.81 | 1.78 | 9611 | 37161 | 100 |
| 100 | 2806 | 11468 | 1.78 | 1.81 | 9477 | 37439 | 100 |
| 100 | 2974 | 12376 | 1.82 | 1.86 | 9531 | 38654 | 100 |
| 100 | 3090 | 12819 | 1.92 | 1.87 | 9443 | 39665 | 100 |
| 99  | 2917 | 12530 | 1.78 | 1.87 | 9637 | 38666 | 100 |
| 99  | 2931 | 12086 | 1.85 | 1.84 | 9354 | 37802 | 100 |
| 99  | 2904 | 12646 | 1.85 | 1.96 | 9388 | 37692 | 100 |
| 100 | 2867 | 11764 | 1.81 | 1.86 | 9399 | 36486 | 100 |
| 100 | 2887 | 11268 | 1.76 | 1.77 | 9677 | 37240 | 100 |
| 100 | 2580 | 11201 | 1.71 | 1.78 | 9318 | 37033 | 100 |
| 96  | 3022 | 11125 | 1.86 | 1.75 | 9641 | 37588 | 100 |
| 99  | 2774 | 11741 | 1.78 | 1.83 | 9312 | 37184 | 100 |
| 98  | 2982 | 11924 | 1.82 | 1.86 | 9589 | 37470 | 100 |
| 99  | 3049 | 12027 | 1.84 | 1.86 | 9708 | 37573 | 100 |
| 97  | 3025 | 11889 | 1.87 | 1.82 | 9467 | 38021 | 100 |
| 97  | 2770 | 11034 | 1.74 | 1.77 | 9533 | 36492 | 100 |
| 99  | 2720 | 11731 | 1.77 | 1.88 | 9282 | 36250 | 100 |
| 100 | 3011 | 11888 | 1.83 | 1.82 | 9839 | 37632 | 100 |
| 98  | 3136 | 12096 | 1.90 | 1.85 | 9641 | 38434 | 100 |
| 100 | 2704 | 11398 | 1.73 | 1.79 | 9312 | 37224 | 100 |
| 100 | 2881 | 12318 | 1.81 | 1.91 | 9452 | 37354 | 100 |
| 100 | 2983 | 11943 | 1.87 | 1.85 | 9507 | 37208 | 100 |
| 100 | 2992 | 11756 | 1.83 | 1.80 | 9632 | 38228 | 100 |
| 100 | 2925 | 11955 | 1.84 | 1.86 | 9281 | 37375 | 100 |
| 99  | 2979 | 11949 | 1.82 | 1.86 | 9530 | 37525 | 100 |
| 99  | 2875 | 11582 | 1.85 | 1.80 | 9171 | 37301 | 100 |
| 100 | 3004 | 12382 | 1.87 | 1.90 | 9519 | 37544 | 100 |
| 98  | 2891 | 11455 | 1.83 | 1.76 | 9369 | 37871 | 100 |
| 99  | 2942 | 11582 | 1.85 | 1.84 | 9451 | 37328 | 100 |
| 99  | 2927 | 11436 | 1.84 | 1.79 | 9368 | 37755 | 100 |
| 100 | 3061 | 12250 | 1.91 | 1.85 | 9316 | 38197 | 100 |
| 99  | 2837 | 11883 | 1.81 | 1.82 | 9226 | 37886 | 100 |
| 99  | 2801 | 11937 | 1.78 | 1.88 | 9453 | 36726 | 100 |
| 99  | 3024 | 12221 | 1.84 | 1.89 | 9574 | 37293 | 100 |
| 99  | 2926 | 11306 | 1.83 | 1.75 | 9519 | 38292 | 100 |



|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2831 | 12891 | 1.78 | 1.95 | 9492 | 37891 |  | 100 |
|  | 99  | 2823 | 11474 | 1.78 | 1.82 | 9418 | 36944 |  | 100 |
|  | 100 | 2853 | 11280 | 1.80 | 1.81 | 9493 | 36660 |  | 100 |
|  | 100 | 2855 | 11583 | 1.80 | 1.81 | 9495 | 37057 |  | 100 |
|  | 100 | 2982 | 11669 | 1.83 | 1.81 | 9641 | 38016 |  | 100 |
|  | 98  | 2862 | 12133 | 1.83 | 1.87 | 9452 | 37954 |  | 100 |
|  | 98  | 3066 | 12241 | 1.87 | 1.87 | 9553 | 38154 |  | 100 |
|  | 99  | 2929 | 11326 | 1.86 | 1.79 | 9477 | 36884 |  | 100 |
|  | 99  | 2955 | 12201 | 1.81 | 1.88 | 9596 | 37115 |  | 100 |
|  | 99  | 3051 | 11382 | 1.88 | 1.79 | 9511 | 37441 |  | 100 |
|  | 100 | 2956 | 12119 | 1.85 | 1.86 | 9321 | 37499 |  | 100 |
|  | 99  | 3104 | 11746 | 1.90 | 1.81 | 9595 | 38161 |  | 100 |
|  | 100 | 2863 | 11227 | 1.81 | 1.80 | 9502 | 36324 |  | 100 |
|  | 100 | 2844 | 12142 | 1.84 | 1.88 | 9267 | 37359 |  | 100 |
|  | 99  | 3052 | 11649 | 1.92 | 1.80 | 9222 | 37160 |  | 100 |
|  | 100 | 3077 | 11186 | 1.84 | 1.76 | 9831 | 37779 |  | 100 |
|  | 97  | 3107 | 11801 | 1.88 | 1.80 | 9715 | 38264 |  | 100 |
|  | 98  | 3105 | 11694 | 1.94 | 1.79 | 9524 | 38131 |  | 100 |
|  | 99  | 2918 | 12080 | 1.85 | 1.87 | 9195 | 37571 |  | 100 |
|  | 100 | 2938 | 11636 | 1.83 | 1.84 | 9644 | 36944 |  | 100 |
|  | 100 | 3111 | 11553 | 1.88 | 1.79 | 9650 | 37542 |  | 100 |
|  | 100 | 3029 | 12643 | 1.91 | 1.90 | 9298 | 38483 |  | 100 |
|  | 100 | 3047 | 11529 | 1.92 | 1.79 | 9095 | 37846 |  | 100 |
|  | 99  | 3116 | 12157 | 1.91 | 1.90 | 9596 | 37091 |  | 100 |
|  | 98  | 3032 | 11384 | 1.88 | 1.77 | 9558 | 37288 |  | 100 |
|  | 100 | 3048 | 11587 | 1.88 | 1.77 | 9420 | 37964 |  | 100 |
|  | 98  | 2917 | 12115 | 1.82 | 1.86 | 9392 | 37743 |  | 100 |
|  | 99  | 3027 | 12169 | 1.85 | 1.89 | 9560 | 37245 |  | 100 |
|  | 100 | 3019 | 11314 | 1.90 | 1.80 | 9538 | 36326 |  | 100 |
|  | 99  | 3051 | 12359 | 1.91 | 1.88 | 9537 | 37882 |  | 100 |
|  | 99  | 2872 | 11231 | 1.83 | 1.76 | 9343 | 37226 |  | 100 |
|  | 99  | 3149 | 11961 | 1.97 | 1.89 | 9286 | 36813 |  | 100 |
|  | 99  | 2996 | 11762 | 1.90 | 1.78 | 9311 | 38499 |  | 100 |
|  | 100 | 2919 | 12058 | 1.85 | 1.81 | 9269 | 38915 |  | 100 |
|  | 100 | 2948 | 12394 | 1.87 | 1.89 | 9278 | 37562 |  | 100 |
|  | 100 | 2886 | 12143 | 1.83 | 1.87 | 9337 | 37326 |  | 100 |
|  | 99  | 3014 | 11978 | 1.90 | 1.83 | 9494 | 38183 |  | 100 |
|  | 100 | 2825 | 11344 | 1.79 | 1.78 | 9599 | 37351 |  | 100 |
|  | 98  | 2604 | 12312 | 1.70 | 1.86 | 9334 | 38044 |  | 100 |
|  | 100 | 2991 | 11674 | 1.86 | 1.83 | 9579 | 37443 |  | 100 |
|  | 98  | 2751 | 11990 | 1.72 | 1.87 | 9478 | 36947 |  | 100 |
|  | 99  | 3079 | 12398 | 1.92 | 1.92 | 9405 | 37207 |  | 100 |
|  | 100 | 2816 | 12336 | 1.83 | 1.86 | 9296 | 37853 |  | 100 |
|  | 100 | 2863 | 11451 | 1.76 | 1.82 | 9537 | 36630 |  | 100 |
|  | 100 | 2695 | 11889 | 1.74 | 1.84 | 9257 | 37249 |  | 100 |
|  | 99  | 2949 | 11319 | 1.87 | 1.81 | 9221 | 36856 |  | 100 |
|  | 100 | 2844 | 12749 | 1.80 | 1.90 | 9386 | 38698 |  | 100 |
|  | 100 | 2768 | 12723 | 1.76 | 1.94 | 9417 | 37973 |  | 100 |
|  | 100 | 2908 | 11494 | 1.84 | 1.83 | 9572 | 36885 |  | 100 |
|  | 100 | 2895 | 11492 | 1.83 | 1.82 | 9320 | 36829 |  | 100 |
|  | 100 | 3101 | 12587 | 1.91 | 1.89 | 9722 | 38201 |  | 100 |
|  | 99  | 3052 | 11815 | 1.87 | 1.83 | 9519 | 37289 |  | 100 |
|  | 100 | 2826 | 11786 | 1.82 | 1.85 | 9274 | 37205 |  | 100 |
|  | 100 | 2693 | 10929 | 1.71 | 1.75 | 9468 | 36862 |  | 100 |
|  | 99  | 2965 | 12025 | 1.82 | 1.85 | 9517 | 37845 |  | 100 |
|  | 100 | 3128 | 11826 | 1.92 | 1.87 | 9564 | 36995 |  | 100 |
|  | 99  | 3054 | 12744 | 1.84 | 1.93 | 9640 | 37920 |  | 100 |
|  | 100 | 2903 | 12120 | 1.83 | 1.85 | 9382 | 38087 |  | 100 |
|  | 100 | 2821 | 12375 | 1.83 | 1.88 | 9101 | 37613 |  | 100 |
|  | 98  | 2810 | 12353 | 1.75 | 1.88 | 9539 | 38227 |  | 100 |
|  | 100 | 2883 | 11946 | 1.83 | 1.85 | 9356 | 37302 |  | 100 |
|  | 99  | 2926 | 12040 | 1.83 | 1.85 | 9512 | 37507 |  | 100 |
|  | 100 | 2639 | 10976 | 1.70 | 1.76 | 9181 | 36999 |  | 100 |
|  | 100 | 2948 | 12227 | 1.85 | 1.91 | 9276 | 37091 |  | 100 |
|  | 99  | 2779 | 11722 | 1.76 | 1.83 | 9510 | 37338 |  | 100 |
|  | 99  | 2984 | 11693 | 1.82 | 1.86 | 9690 | 36515 |  | 100 |
|  | 99  | 2969 | 11935 | 1.80 | 1.83 | 9602 | 37677 |  | 100 |
|  | 100 | 2829 | 11667 | 1.81 | 1.82 | 9398 | 37450 |  | 100 |
|  | 100 | 3020 | 12174 | 1.89 | 1.88 | 9385 | 37892 |  | 100 |
|  | 99  | 2829 | 11424 | 1.77 | 1.79 | 9563 | 37419 |  | 100 |
|  | 100 | 2829 | 12326 | 1.81 | 1.92 | 9177 | 37284 |  | 100 |
|  | 98  | 2940 | 12060 | 1.85 | 1.86 | 9336 | 37687 |  | 100 |
|  | 99  | 2928 | 11626 | 1.88 | 1.83 | 9262 | 37125 |  | 100 |
|  | 99  | 2872 | 11716 | 1.85 | 1.83 | 9283 | 36971 |  | 100 |
|  | 100 | 2795 | 11554 | 1.81 | 1.81 | 9172 | 37229 |  | 100 |
|  | 100 | 2889 | 11735 | 1.79 | 1.85 | 9514 | 36834 |  | 100 |
|  | 98  | 3159 | 11449 | 1.94 | 1.81 | 9676 | 37314 |  | 100 |
|  | 99  | 2739 | 11116 | 1.75 | 1.80 | 9309 | 36379 |  | 100 |
|  | 99  | 2696 | 11370 | 1.77 | 1.75 | 9122 | 38606 |  | 100 |
|  | 100 | 2769 | 11999 | 1.77 | 1.84 | 9415 | 37848 |  | 100 |
|  | 100 | 3202 | 12662 | 1.91 | 1.90 | 9717 | 38540 |  | 100 |
|  | 99  | 2791 | 11305 | 1.78 | 1.79 | 9520 | 37185 |  | 100 |
|  | 100 | 2825 | 11689 | 1.86 | 1.79 | 9199 | 38091 |  | 100 |
|  | 100 | 2767 | 11736 | 1.83 | 1.85 | 9003 | 36325 |  | 100 |
|  | 100 | 2785 | 11609 | 1.73 | 1.81 | 9754 | 37672 |  | 99  |
|  | 99  | 3415 | 12269 | 2.07 | 1.90 | 9469 | 37363 |  | 100 |
|  | 100 | 2879 | 11482 | 1.78 | 1.81 | 9614 | 36859 |  | 100 |
|  | 97  | 2962 | 11074 | 1.86 | 1.80 | 9285 | 37196 |  | 100 |
|  | 99  | 3006 | 12306 | 1.84 | 1.86 | 9647 | 38273 |  | 100 |
|  | 99  | 2965 | 11710 | 1.84 | 1.79 | 9502 | 38229 |  | 100 |
|  | 99  | 2573 | 11673 | 1.66 | 1.85 | 9382 | 36612 |  | 100 |
|  | 99  | 2901 | 11485 | 1.81 | 1.80 | 9558 | 37720 |  | 100 |
|  | 99  | 3180 | 11361 | 1.94 | 1.80 | 9437 | 36661 |  | 100 |
|  | 100 | 2880 | 11406 | 1.82 | 1.81 | 9535 | 37385 |  | 100 |
|  | 100 | 2960 | 11240 | 1.82 | 1.72 | 9526 | 38605 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 96  | 2958 | 11609 | 1.86 | 1.79 | 9495 | 37742 | 100 |
|  | 100 | 2623 | 11175 | 1.72 | 1.74 | 9320 | 37711 | 100 |
|  | 99  | 2831 | 12304 | 1.78 | 1.88 | 9447 | 38211 | 100 |
|  | 99  | 2862 | 11453 | 1.83 | 1.78 | 9243 | 37532 | 100 |
|  | 100 | 2929 | 11538 | 1.82 | 1.79 | 9569 | 37993 | 100 |
|  | 100 | 3086 | 11442 | 1.89 | 1.80 | 9392 | 37090 | 100 |
|  | 100 | 3051 | 11464 | 1.85 | 1.78 | 9774 | 37643 | 100 |
|  | 100 | 3051 | 12367 | 1.84 | 1.89 | 9713 | 37739 | 100 |
|  | 100 | 2880 | 11633 | 1.83 | 1.80 | 9468 | 37994 | 100 |
|  | 99  | 3043 | 12295 | 1.91 | 1.89 | 9148 | 37014 | 100 |
|  | 99  | 2924 | 11128 | 1.83 | 1.77 | 9550 | 37217 | 100 |
|  | 99  | 3274 | 11942 | 2.01 | 1.83 | 9408 | 38402 | 100 |
|  | 100 | 3101 | 12316 | 1.92 | 1.86 | 9525 | 38381 | 100 |
|  | 99  | 2946 | 11802 | 1.87 | 1.81 | 9165 | 38059 | 100 |
|  | 99  | 3002 | 12045 | 1.83 | 1.87 | 9676 | 37730 | 100 |
|  | 100 | 2959 | 12582 | 1.84 | 1.91 | 9421 | 38074 | 100 |
|  | 99  | 2679 | 12552 | 1.80 | 1.92 | 8889 | 37486 | 100 |
|  | 99  | 2901 | 11130 | 1.83 | 1.77 | 9446 | 37210 | 100 |
|  | 100 | 3048 | 12328 | 1.88 | 1.90 | 9513 | 37598 | 100 |
|  | 100 | 2956 | 11740 | 1.88 | 1.82 | 9249 | 37416 | 100 |
|  | 100 | 2977 | 11308 | 1.83 | 1.74 | 9611 | 38030 | 100 |
|  | 99  | 3093 | 12037 | 1.97 | 1.86 | 9191 | 37198 | 100 |
|  | 98  | 2637 | 10988 | 1.74 | 1.77 | 9105 | 36184 | 100 |
|  | 100 | 2990 | 11762 | 1.92 | 1.82 | 9342 | 38067 | 100 |
|  | 100 | 2865 | 11400 | 1.83 | 1.79 | 9319 | 37393 | 100 |
|  | 100 | 2927 | 11638 | 1.83 | 1.79 | 9489 | 38108 | 100 |
|  | 99  | 2783 | 12557 | 1.78 | 1.89 | 9470 | 38189 | 100 |
|  | 100 | 2865 | 12318 | 1.84 | 1.88 | 9141 | 37746 | 100 |
|  | 99  | 2964 | 11519 | 1.81 | 1.84 | 9660 | 36976 | 100 |
|  | 99  | 2792 | 11621 | 1.79 | 1.84 | 9449 | 36438 | 100 |
|  | 98  | 3115 | 12039 | 1.89 | 1.85 | 9565 | 37700 | 100 |
|  | 98  | 3102 | 11578 | 1.95 | 1.82 | 9390 | 37309 | 100 |
|  | 98  | 3041 | 12366 | 1.87 | 1.91 | 9494 | 37150 | 100 |
|  | 98  | 2844 | 11854 | 1.78 | 1.86 | 9504 | 37323 | 100 |
|  | 100 | 2833 | 12181 | 1.79 | 1.88 | 9483 | 37431 | 100 |
|  | 100 | 3010 | 12060 | 1.89 | 1.87 | 9388 | 36988 | 100 |
|  | 99  | 2970 | 11677 | 1.83 | 1.81 | 9459 | 38441 | 100 |
|  | 98  | 2975 | 11715 | 1.81 | 1.84 | 9658 | 36863 | 100 |
|  | 100 | 3168 | 12376 | 1.93 | 1.89 | 9515 | 37905 | 100 |
|  | 100 | 2920 | 11502 | 1.83 | 1.82 | 9402 | 37022 | 100 |
|  | 98  | 3047 | 11003 | 1.85 | 1.77 | 9714 | 36364 | 100 |
|  | 100 | 2862 | 12306 | 1.77 | 1.84 | 9567 | 38774 | 100 |
|  | 100 | 2924 | 11942 | 1.79 | 1.85 | 9499 | 37130 | 100 |
|  | 100 | 2810 | 12069 | 1.72 | 1.85 | 9962 | 37591 | 100 |
|  | 98  | 3083 | 12105 | 1.93 | 1.86 | 9302 | 37492 | 100 |
|  | 100 | 2891 | 11325 | 1.81 | 1.83 | 9244 | 36225 | 100 |
|  | 100 | 3150 | 11656 | 1.88 | 1.78 | 9884 | 38144 | 100 |
|  | 100 | 2726 | 12060 | 1.79 | 1.85 | 9052 | 37905 | 100 |
|  | 100 | 2884 | 12164 | 1.80 | 1.88 | 9427 | 37284 | 100 |
|  | 99  | 3051 | 11075 | 1.87 | 1.74 | 9502 | 37607 | 100 |
|  | 98  | 2736 | 11227 | 1.80 | 1.79 | 9116 | 37077 | 100 |
|  | 100 | 2893 | 12226 | 1.78 | 1.83 | 9710 | 38452 | 100 |
|  | 100 | 3098 | 11566 | 1.91 | 1.84 | 9423 | 36568 | 100 |
|  | 100 | 2744 | 12438 | 1.77 | 1.92 | 9349 | 37311 | 100 |
|  | 99  | 2723 | 12245 | 1.73 | 1.83 | 9516 | 38722 | 100 |
|  | 99  | 3034 | 11755 | 1.89 | 1.83 | 9423 | 37561 | 100 |
|  | 98  | 3032 | 11510 | 1.86 | 1.80 | 9558 | 37417 | 100 |
|  | 99  | 2966 | 12633 | 1.85 | 1.92 | 9689 | 37662 | 100 |
|  | 99  | 3015 | 11471 | 1.84 | 1.82 | 9752 | 37226 | 100 |
|  | 99  | 2840 | 11536 | 1.79 | 1.82 | 9358 | 37185 | 100 |
|  | 99  | 2800 | 11640 | 1.82 | 1.80 | 9265 | 37636 | 100 |
|  | 99  | 3030 | 11062 | 1.89 | 1.76 | 9356 | 36802 | 100 |
|  | 100 | 3013 | 11688 | 1.90 | 1.82 | 9366 | 37245 | 100 |
|  | 99  | 3064 | 11990 | 1.91 | 1.87 | 9327 | 37193 | 100 |
|  | 100 | 2789 | 12537 | 1.83 | 1.92 | 9166 | 38042 | 100 |
|  | 98  | 3090 | 12387 | 1.90 | 1.88 | 9574 | 38067 | 100 |
|  | 98  | 3040 | 11605 | 1.88 | 1.78 | 9578 | 38256 | 100 |
|  | 99  | 3223 | 11406 | 1.98 | 1.80 | 9535 | 37101 | 100 |
|  | 100 | 2824 | 11686 | 1.81 | 1.80 | 9162 | 37482 | 100 |
|  | 100 | 2890 | 11903 | 1.83 | 1.87 | 9482 | 36523 | 100 |
|  | 100 | 3218 | 12067 | 1.92 | 1.85 | 9731 | 37498 | 100 |
|  | 100 | 2983 | 11785 | 1.88 | 1.84 | 9425 | 37062 | 100 |
|  | 100 | 2852 | 11491 | 1.84 | 1.79 | 9265 | 37317 | 100 |
|  | 98  | 2939 | 12187 | 1.85 | 1.88 | 9391 | 37326 | 100 |
|  | 99  | 3069 | 12147 | 1.89 | 1.86 | 9512 | 37446 | 100 |
|  | 99  | 2912 | 11611 | 1.79 | 1.84 | 9621 | 37460 | 100 |
|  | 100 | 2781 | 11589 | 1.77 | 1.82 | 9438 | 36864 | 100 |
|  | 99  | 2866 | 11331 | 1.83 | 1.81 | 9249 | 36933 | 100 |
|  | 98  | 2851 | 11317 | 1.81 | 1.76 | 9493 | 37623 | 100 |
|  | 100 | 2912 | 12479 | 1.85 | 1.89 | 9282 | 37930 | 100 |
|  | 99  | 3008 | 12075 | 1.91 | 1.90 | 9404 | 36858 | 100 |
|  | 99  | 3078 | 12009 | 1.91 | 1.88 | 9425 | 36524 | 100 |
|  | 99  | 2785 | 11739 | 1.78 | 1.86 | 9554 | 37005 | 100 |
|  | 100 | 2678 | 11836 | 1.76 | 1.84 | 9181 | 37189 | 100 |
|  | 99  | 2844 | 12286 | 1.82 | 1.90 | 9222 | 36862 | 100 |
|  | 100 | 3005 | 12056 | 1.83 | 1.89 | 9479 | 36674 | 100 |
|  | 100 | 3046 | 11136 | 1.89 | 1.75 | 9387 | 37506 | 100 |
|  | 98  | 2915 | 12598 | 1.79 | 1.89 | 9512 | 38133 | 100 |
|  | 100 | 2819 | 11461 | 1.81 | 1.78 | 9335 | 37749 | 100 |
|  | 100 | 3032 | 12590 | 1.88 | 1.95 | 9505 | 37842 | 100 |
|  | 99  | 2915 | 11375 | 1.83 | 1.81 | 9370 | 36906 | 100 |
|  | 100 | 3132 | 10770 | 1.92 | 1.75 | 9431 | 36786 | 100 |
|  | 100 | 2805 | 11927 | 1.78 | 1.87 | 9504 | 36787 | 100 |
|  | 99  | 2938 | 12357 | 1.83 | 1.92 | 9478 | 37003 | 100 |
|  | 100 | 2913 | 12032 | 1.83 | 1.86 | 9385 | 37770 | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2957 | 11358 | 1.82 | 1.76 | 9583 | 37744 | 100 |
| 100 | 2791 | 11585 | 1.82 | 1.79 | 9211 | 38388 | 100 |
| 99  | 2895 | 12071 | 1.82 | 1.86 | 9453 | 37655 | 100 |
| 98  | 2955 | 11928 | 1.83 | 1.85 | 9376 | 37453 | 100 |
| 100 | 2806 | 11469 | 1.80 | 1.79 | 9196 | 37632 | 100 |
| 100 | 2978 | 12151 | 1.83 | 1.88 | 9603 | 37483 | 100 |
| 100 | 2802 | 11854 | 1.76 | 1.85 | 9362 | 37468 | 100 |
| 100 | 3033 | 10802 | 1.92 | 1.72 | 9272 | 37014 | 100 |
| 99  | 3095 | 11064 | 1.95 | 1.76 | 9213 | 36879 | 100 |
| 98  | 3013 | 13025 | 1.92 | 1.94 | 9391 | 38825 | 100 |
| 98  | 3081 | 12235 | 1.90 | 1.89 | 9543 | 36911 | 100 |
| 99  | 2886 | 11482 | 1.86 | 1.78 | 9269 | 37526 | 100 |
| 98  | 3163 | 11608 | 1.88 | 1.80 | 9686 | 37633 | 100 |
| 100 | 3003 | 11655 | 1.87 | 1.80 | 9407 | 37802 | 100 |
| 98  | 2928 | 11653 | 1.83 | 1.81 | 9498 | 37470 | 100 |
| 100 | 2776 | 12281 | 1.77 | 1.85 | 9363 | 38738 | 100 |
| 100 | 2766 | 12559 | 1.75 | 1.87 | 9532 | 38950 | 100 |
| 97  | 2848 | 11375 | 1.85 | 1.81 | 9169 | 36802 | 100 |
| 100 | 2569 | 12367 | 1.67 | 1.91 | 9384 | 37321 | 100 |
| 98  | 2887 | 11241 | 1.81 | 1.79 | 9357 | 36715 | 100 |
| 100 | 2859 | 11676 | 1.80 | 1.83 | 9289 | 37310 | 100 |
| 100 | 2909 | 11824 | 1.83 | 1.80 | 9342 | 38209 | 100 |
| 99  | 2981 | 11686 | 1.82 | 1.87 | 9580 | 36384 | 100 |
| 97  | 3116 | 12005 | 1.93 | 1.86 | 9477 | 37392 | 100 |
| 100 | 2793 | 11925 | 1.80 | 1.84 | 9315 | 37589 | 100 |
| 99  | 2898 | 11759 | 1.86 | 1.81 | 9261 | 37612 | 100 |
| 100 | 3059 | 12135 | 1.92 | 1.88 | 9478 | 37615 | 100 |
| 99  | 2925 | 10638 | 1.89 | 1.71 | 9060 | 37353 | 100 |
| 99  | 3075 | 11932 | 1.93 | 1.85 | 9386 | 37150 | 100 |
| 99  | 2987 | 11218 | 1.85 | 1.78 | 9473 | 37207 | 100 |
| 99  | 2883 | 12127 | 1.80 | 1.90 | 9331 | 36894 | 100 |
| 96  | 3054 | 11851 | 1.91 | 1.85 | 9282 | 36854 | 100 |
| 98  | 2734 | 12166 | 1.81 | 1.85 | 9090 | 37762 | 100 |
| 99  | 3048 | 12062 | 1.92 | 1.86 | 9364 | 37804 | 100 |
| 99  | 2737 | 12278 | 1.78 | 1.86 | 9272 | 38042 | 100 |
| 100 | 2859 | 12317 | 1.77 | 1.91 | 9540 | 37033 | 100 |
| 100 | 2828 | 11719 | 1.76 | 1.82 | 9498 | 37557 | 100 |
| 100 | 2900 | 11461 | 1.83 | 1.79 | 9364 | 37652 | 100 |
| 100 | 2728 | 12420 | 1.73 | 1.88 | 9335 | 37522 | 100 |
| 100 | 2776 | 11096 | 1.80 | 1.78 | 9122 | 36173 | 100 |
| 98  | 3195 | 11807 | 1.98 | 1.86 | 9436 | 36570 | 100 |
| 100 | 2718 | 11874 | 1.79 | 1.83 | 9022 | 37874 | 100 |
| 99  | 2868 | 11896 | 1.80 | 1.82 | 9394 | 37925 | 100 |
| 100 | 2992 | 12040 | 1.84 | 1.88 | 9475 | 36823 | 100 |
| 99  | 2919 | 11621 | 1.81 | 1.82 | 9453 | 37513 | 100 |
| 99  | 3181 | 12452 | 1.90 | 1.90 | 9619 | 37695 | 100 |
| 98  | 3207 | 11618 | 1.96 | 1.80 | 9542 | 37782 | 100 |
| 99  | 2879 | 11812 | 1.81 | 1.84 | 9536 | 37575 | 100 |
| 100 | 2881 | 11705 | 1.84 | 1.85 | 9254 | 37323 | 100 |
| 100 | 2974 | 12512 | 1.90 | 1.93 | 9388 | 37283 | 100 |
| 100 | 2786 | 11751 | 1.77 | 1.81 | 9410 | 37930 | 100 |
| 98  | 2907 | 12029 | 1.85 | 1.88 | 9294 | 37360 | 100 |
| 100 | 2951 | 11739 | 1.86 | 1.82 | 9368 | 37820 | 100 |
| 100 | 2906 | 11157 | 1.83 | 1.76 | 9321 | 37151 | 100 |
| 100 | 2987 | 11981 | 1.87 | 1.84 | 9568 | 37413 | 100 |
| 100 | 2848 | 11920 | 1.86 | 1.85 | 9219 | 37542 | 100 |
| 99  | 2984 | 12295 | 1.84 | 1.88 | 9513 | 37692 | 100 |
| 98  | 2944 | 12670 | 1.82 | 1.90 | 9489 | 38319 | 100 |
| 99  | 2947 | 11653 | 1.81 | 1.86 | 9541 | 36343 | 100 |
| 98  | 2926 | 12071 | 1.81 | 1.86 | 9630 | 37426 | 100 |
| 100 | 2927 | 11553 | 1.85 | 1.82 | 9396 | 37408 | 100 |
| 100 | 3041 | 12206 | 1.87 | 1.86 | 9482 | 38082 | 100 |
| 99  | 2913 | 11975 | 1.86 | 1.88 | 9257 | 36651 | 100 |
| 98  | 2718 | 11642 | 1.75 | 1.83 | 9290 | 36837 | 100 |
| 99  | 2916 | 11746 | 1.86 | 1.85 | 9313 | 37535 | 100 |
| 99  | 3133 | 11617 | 1.99 | 1.85 | 9215 | 37290 | 100 |
| 100 | 2786 | 11608 | 1.71 | 1.85 | 9543 | 36126 | 100 |
| 100 | 2787 | 11440 | 1.79 | 1.81 | 9423 | 36775 | 100 |
| 99  | 2976 | 11468 | 1.83 | 1.79 | 9554 | 37336 | 100 |
| 100 | 2862 | 11581 | 1.81 | 1.81 | 9306 | 37629 | 100 |
| 99  | 2836 | 11790 | 1.82 | 1.82 | 9137 | 37502 | 100 |
| 100 | 3045 | 11761 | 1.89 | 1.82 | 9386 | 37837 | 100 |
| 100 | 2872 | 11723 | 1.82 | 1.83 | 9335 | 37469 | 100 |
| 99  | 2823 | 12739 | 1.78 | 1.94 | 9285 | 37343 | 100 |
| 99  | 2979 | 11353 | 1.84 | 1.78 | 9588 | 37601 | 100 |
| 99  | 3023 | 12622 | 1.86 | 1.94 | 9477 | 37241 | 100 |
| 99  | 3108 | 12266 | 1.89 | 1.89 | 9747 | 37366 | 100 |
| 100 | 2867 | 11812 | 1.85 | 1.84 | 9234 | 37256 | 100 |
| 98  | 3106 | 11604 | 1.92 | 1.79 | 9409 | 37958 | 100 |
| 99  | 3066 | 11274 | 1.90 | 1.79 | 9642 | 36826 | 100 |
| 99  | 2784 | 12077 | 1.79 | 1.82 | 9513 | 38549 | 100 |
| 98  | 2966 | 11741 | 1.83 | 1.82 | 9521 | 37506 | 100 |
| 99  | 3085 | 11684 | 1.86 | 1.83 | 9501 | 37082 | 100 |
| 98  | 3028 | 11318 | 1.90 | 1.80 | 9343 | 37030 | 100 |
| 100 | 2859 | 11827 | 1.81 | 1.86 | 9312 | 37360 | 100 |
| 99  | 2753 | 11371 | 1.73 | 1.79 | 9323 | 36894 | 100 |
| 100 | 3048 | 12032 | 1.83 | 1.84 | 9885 | 37230 | 100 |
| 100 | 2789 | 11781 | 1.82 | 1.88 | 9159 | 36298 | 100 |
| 97  | 3196 | 12029 | 1.92 | 1.85 | 9551 | 37889 | 100 |
| 100 | 3068 | 11406 | 1.83 | 1.79 | 9889 | 37335 | 100 |
| 100 | 2782 | 11489 | 1.76 | 1.83 | 9550 | 36534 | 100 |
| 100 | 2994 | 12476 | 1.90 | 1.91 | 9203 | 37472 | 100 |
| 100 | 3033 | 12089 | 1.85 | 1.86 | 9512 | 38007 | 100 |
| 100 | 2756 | 12142 | 1.78 | 1.93 | 9196 | 36966 | 100 |
| 100 | 3045 | 11806 | 1.86 | 1.83 | 9562 | 37423 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 3111 | 11988 | 1.86 | 1.86 | 9676 | 37481 |  | 100 |
|  | 100 | 3115 | 11596 | 1.91 | 1.80 | 9556 | 37213 |  | 100 |
|  | 100 | 2785 | 12570 | 1.78 | 1.91 | 9399 | 37424 |  | 100 |
|  | 99  | 3073 | 11589 | 1.85 | 1.85 | 9557 | 36309 |  | 100 |
|  | 100 | 2785 | 11890 | 1.75 | 1.88 | 9419 | 36725 |  | 100 |
|  | 100 | 2996 | 12018 | 1.86 | 1.89 | 9377 | 36617 |  | 100 |
|  | 100 | 2981 | 10916 | 1.87 | 1.73 | 9414 | 37218 |  | 100 |
|  | 100 | 2832 | 11522 | 1.80 | 1.78 | 9528 | 37648 |  | 100 |
|  | 100 | 2915 | 11802 | 1.83 | 1.88 | 9349 | 36591 |  | 100 |
|  | 98  | 2815 | 11999 | 1.83 | 1.89 | 9095 | 37003 |  | 100 |
|  | 99  | 2775 | 12023 | 1.74 | 1.87 | 9640 | 37152 |  | 100 |
|  | 100 | 2911 | 12043 | 1.83 | 1.90 | 9673 | 36443 |  | 100 |
|  | 100 | 2954 | 11920 | 1.80 | 1.88 | 9800 | 37171 |  | 100 |
|  | 98  | 2849 | 11516 | 1.81 | 1.82 | 9313 | 37139 |  | 100 |
|  | 99  | 2802 | 12377 | 1.81 | 1.88 | 9167 | 37590 |  | 100 |
|  | 100 | 2802 | 12309 | 1.82 | 1.91 | 9099 | 37346 |  | 100 |
|  | 99  | 2802 | 11709 | 1.78 | 1.78 | 9447 | 38120 |  | 100 |
|  | 100 | 2723 | 11292 | 1.80 | 1.77 | 8926 | 37392 |  | 100 |
|  | 99  | 3172 | 12168 | 1.97 | 1.88 | 9351 | 37480 |  | 100 |
|  | 100 | 3087 | 12622 | 1.88 | 1.90 | 9416 | 37947 |  | 100 |
|  | 100 | 2858 | 11361 | 1.84 | 1.78 | 9226 | 37718 |  | 100 |
|  | 100 | 2997 | 11822 | 1.88 | 1.81 | 9453 | 38235 |  | 100 |
|  | 100 | 3106 | 11898 | 1.90 | 1.85 | 9757 | 37272 |  | 100 |
|  | 99  | 3015 | 11497 | 1.86 | 1.79 | 9526 | 37635 |  | 100 |
|  | 97  | 3006 | 11783 | 1.88 | 1.80 | 9475 | 38152 |  | 100 |
|  | 99  | 2680 | 11836 | 1.73 | 1.90 | 9361 | 36235 |  | 100 |
|  | 100 | 3071 | 12128 | 1.89 | 1.86 | 9465 | 37439 |  | 100 |
|  | 100 | 2818 | 11458 | 1.82 | 1.77 | 9123 | 38019 |  | 100 |
|  | 100 | 2880 | 11589 | 1.81 | 1.83 | 9398 | 37127 |  | 100 |
|  | 100 | 2778 | 11571 | 1.79 | 1.83 | 9249 | 37022 |  | 100 |
|  | 100 | 2646 | 11632 | 1.74 | 1.82 | 9286 | 37003 |  | 100 |
|  | 100 | 2898 | 12222 | 1.80 | 1.87 | 9420 | 37630 |  | 100 |
|  | 100 | 2882 | 11718 | 1.82 | 1.83 | 9224 | 36988 |  | 100 |
|  | 97  | 3026 | 12479 | 1.88 | 1.93 | 9470 | 37529 |  | 100 |
|  | 98  | 2777 | 11824 | 1.78 | 1.82 | 9316 | 37601 |  | 100 |
|  | 99  | 3230 | 11933 | 1.95 | 1.89 | 9582 | 36596 |  | 100 |
|  | 98  | 2922 | 11753 | 1.83 | 1.82 | 9632 | 37571 |  | 100 |
|  | 99  | 2714 | 12133 | 1.68 | 1.86 | 9680 | 38078 |  | 100 |
|  | 99  | 2911 | 12870 | 1.86 | 1.92 | 9274 | 38322 |  | 100 |
|  | 100 | 2696 | 11635 | 1.75 | 1.79 | 9381 | 37925 |  | 100 |
|  | 99  | 2717 | 11557 | 1.74 | 1.81 | 9355 | 37040 |  | 100 |
|  | 100 | 2749 | 12316 | 1.75 | 1.87 | 9379 | 37935 |  | 100 |
|  | 99  | 3122 | 11677 | 1.91 | 1.83 | 9561 | 37460 |  | 100 |
|  | 100 | 2569 | 11906 | 1.67 | 1.84 | 9353 | 37214 |  | 100 |
|  | 99  | 2990 | 12079 | 1.81 | 1.88 | 9721 | 36921 |  | 100 |
|  | 98  | 3097 | 12573 | 1.91 | 1.97 | 9532 | 37571 |  | 100 |
|  | 98  | 2899 | 11747 | 1.82 | 1.83 | 9472 | 37249 |  | 100 |
|  | 99  | 2945 | 12231 | 1.81 | 1.84 | 9771 | 38429 |  | 100 |
|  | 100 | 2866 | 11867 | 1.79 | 1.85 | 9420 | 36995 |  | 100 |
|  | 99  | 3067 | 12549 | 1.87 | 1.89 | 9554 | 38702 |  | 100 |
|  | 96  | 3181 | 11896 | 1.93 | 1.83 | 9494 | 37599 |  | 100 |
|  | 100 | 2913 | 11934 | 1.88 | 1.85 | 9292 | 37068 |  | 100 |
|  | 99  | 2732 | 12500 | 1.80 | 1.91 | 9134 | 37760 |  | 100 |
|  | 100 | 2715 | 11735 | 1.72 | 1.81 | 9430 | 37716 |  | 100 |
|  | 100 | 2926 | 11544 | 1.81 | 1.82 | 9500 | 37331 |  | 100 |
|  | 100 | 2992 | 11367 | 1.86 | 1.79 | 9621 | 37219 |  | 100 |
|  | 100 | 3109 | 11176 | 1.85 | 1.79 | 9638 | 37204 |  | 100 |
|  | 100 | 2769 | 11396 | 1.80 | 1.83 | 9133 | 36642 |  | 100 |
|  | 99  | 2915 | 11774 | 1.85 | 1.83 | 9377 | 37600 |  | 100 |
|  | 100 | 2834 | 11680 | 1.78 | 1.80 | 9620 | 37573 |  | 100 |
|  | 99  | 3042 | 12048 | 1.89 | 1.86 | 9409 | 37673 |  | 100 |
|  | 99  | 2926 | 11443 | 1.81 | 1.79 | 9516 | 36882 |  | 100 |
|  | 100 | 2757 | 11294 | 1.75 | 1.76 | 9484 | 37649 |  | 100 |
|  | 100 | 2906 | 11664 | 1.81 | 1.82 | 9532 | 36814 |  | 100 |
|  | 100 | 2821 | 11723 | 1.78 | 1.82 | 9301 | 37391 |  | 100 |
|  | 99  | 2899 | 12532 | 1.80 | 1.87 | 9544 | 38154 |  | 100 |
|  | 100 | 2845 | 11831 | 1.85 | 1.84 | 9171 | 37644 |  | 100 |
|  | 100 | 2928 | 11879 | 1.82 | 1.84 | 9525 | 37300 |  | 100 |
|  | 100 | 2818 | 10984 | 1.76 | 1.76 | 9579 | 37226 |  | 100 |
|  | 99  | 3032 | 11741 | 1.88 | 1.83 | 9414 | 37305 |  | 100 |
|  | 99  | 2858 | 12608 | 1.79 | 1.90 | 9498 | 37922 |  | 100 |
|  | 100 | 3043 | 11753 | 1.88 | 1.80 | 9480 | 37730 |  | 100 |
|  | 100 | 2965 | 11296 | 1.86 | 1.83 | 9260 | 36179 |  | 100 |
|  | 99  | 2970 | 11753 | 1.86 | 1.85 | 9443 | 36862 |  | 100 |
|  | 98  | 2916 | 12337 | 1.82 | 1.88 | 9409 | 38098 |  | 100 |
|  | 100 | 2980 | 12071 | 1.83 | 1.83 | 9739 | 38069 |  | 100 |
|  | 99  | 3016 | 11261 | 1.90 | 1.80 | 9290 | 36608 |  | 100 |
|  | 99  | 2803 | 11984 | 1.76 | 1.86 | 9577 | 37358 |  | 100 |
|  | 98  | 2870 | 12213 | 1.78 | 1.88 | 9618 | 37430 |  | 100 |
|  | 100 | 3051 | 11300 | 1.91 | 1.81 | 9261 | 36505 |  | 100 |
|  | 97  | 3046 | 11494 | 1.88 | 1.81 | 9438 | 37471 |  | 100 |
|  | 98  | 3049 | 12046 | 1.88 | 1.88 | 9640 | 36932 |  | 100 |
|  | 99  | 2948 | 12462 | 1.85 | 1.87 | 9610 | 38522 |  | 100 |
|  | 100 | 2785 | 11917 | 1.80 | 1.78 | 9179 | 38684 |  | 100 |
|  | 99  | 2920 | 12012 | 1.81 | 1.87 | 9505 | 37400 |  | 100 |
|  | 98  | 3096 | 12193 | 1.85 | 1.87 | 9917 | 37266 |  | 100 |
|  | 100 | 2999 | 12000 | 1.84 | 1.86 | 9506 | 37408 |  | 100 |
|  | 99  | 3054 | 12271 | 1.88 | 1.93 | 9544 | 37305 |  | 100 |
|  | 99  | 2761 | 11625 | 1.73 | 1.78 | 9522 | 37821 |  | 100 |
|  | 98  | 2864 | 11106 | 1.81 | 1.76 | 9394 | 37114 |  | 100 |
|  | 99  | 3074 | 12048 | 1.89 | 1.86 | 9366 | 37161 |  | 100 |
|  | 100 | 2867 | 11400 | 1.86 | 1.77 | 9303 | 37661 |  | 100 |
|  | 98  | 3077 | 12173 | 1.92 | 1.89 | 9318 | 37235 |  | 100 |
|  | 100 | 3054 | 12052 | 1.86 | 1.88 | 9660 | 37012 |  | 100 |
|  | 99  | 2913 | 11768 | 1.80 | 1.87 | 9557 | 36509 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 3068 | 11209 | 1.89 | 1.79 | 9431 | 36520 |  | 100 |
|  | 98  | 3109 | 12481 | 1.90 | 1.89 | 9488 | 38246 |  | 100 |
|  | 100 | 2556 | 12022 | 1.66 | 1.79 | 9235 | 39053 |  | 100 |
|  | 99  | 2915 | 11973 | 1.84 | 1.93 | 9523 | 36247 |  | 100 |
|  | 100 | 2783 | 12551 | 1.78 | 1.91 | 9257 | 38068 |  | 100 |
|  | 98  | 2863 | 11620 | 1.82 | 1.81 | 9355 | 37277 |  | 100 |
|  | 99  | 2935 | 11747 | 1.79 | 1.82 | 9663 | 37728 |  | 100 |
|  | 100 | 2646 | 12655 | 1.68 | 1.94 | 9595 | 37566 |  | 100 |
|  | 100 | 3040 | 11234 | 1.87 | 1.81 | 9492 | 36480 |  | 100 |
|  | 100 | 2787 | 11931 | 1.81 | 1.89 | 9063 | 36761 |  | 100 |
|  | 100 | 3146 | 11564 | 1.91 | 1.84 | 9673 | 36532 |  | 100 |
|  | 100 | 2903 | 12121 | 1.81 | 1.85 | 9615 | 37931 |  | 100 |
|  | 100 | 2805 | 11881 | 1.76 | 1.85 | 9517 | 37296 |  | 100 |
|  | 100 | 2759 | 11452 | 1.76 | 1.82 | 9382 | 36914 |  | 100 |
|  | 100 | 2894 | 12216 | 1.80 | 1.88 | 9457 | 37834 |  | 100 |
|  | 99  | 2986 | 11353 | 1.84 | 1.77 | 9687 | 37573 |  | 100 |
|  | 98  | 2996 | 12046 | 1.87 | 1.83 | 9339 | 38394 |  | 100 |
|  | 100 | 3097 | 11889 | 1.93 | 1.85 | 9392 | 37431 |  | 100 |
|  | 98  | 2956 | 11711 | 1.89 | 1.79 | 9285 | 37841 |  | 100 |
|  | 100 | 2957 | 12742 | 1.87 | 1.91 | 9188 | 38320 |  | 100 |
|  | 99  | 2920 | 12314 | 1.82 | 1.91 | 9530 | 37163 |  | 100 |
|  | 99  | 2785 | 12470 | 1.75 | 1.89 | 9364 | 37502 |  | 100 |
|  | 99  | 3071 | 11536 | 1.90 | 1.79 | 9519 | 37799 |  | 100 |
|  | 98  | 2803 | 11589 | 1.77 | 1.86 | 9494 | 36038 |  | 100 |
|  | 100 | 2819 | 11699 | 1.76 | 1.80 | 9730 | 37804 |  | 100 |
|  | 100 | 2989 | 11818 | 1.85 | 1.84 | 9523 | 37407 |  | 100 |
|  | 99  | 2840 | 12030 | 1.84 | 1.83 | 9285 | 38617 |  | 100 |
|  | 99  | 2748 | 11959 | 1.73 | 1.83 | 9492 | 37449 |  | 100 |
|  | 99  | 2906 | 12660 | 1.81 | 1.93 | 9374 | 37811 |  | 100 |
|  | 99  | 2801 | 11434 | 1.76 | 1.83 | 9484 | 36652 |  | 100 |
|  | 100 | 2979 | 12558 | 1.86 | 1.85 | 9474 | 39005 |  | 100 |
|  | 99  | 2947 | 12426 | 1.87 | 1.89 | 9322 | 38128 |  | 100 |
|  | 99  | 2703 | 11751 | 1.76 | 1.86 | 9288 | 36496 |  | 100 |
|  | 98  | 2940 | 11254 | 1.84 | 1.79 | 9424 | 36835 |  | 100 |
|  | 100 | 3140 | 11299 | 1.92 | 1.81 | 9553 | 36279 |  | 100 |
|  | 99  | 2843 | 11051 | 1.80 | 1.77 | 9401 | 36944 |  | 100 |
|  | 100 | 3044 | 11763 | 1.88 | 1.79 | 9608 | 38163 |  | 100 |
|  | 100 | 2863 | 11072 | 1.80 | 1.79 | 9380 | 36387 |  | 100 |
|  | 100 | 2981 | 12182 | 1.83 | 1.88 | 9697 | 37202 |  | 100 |
|  | 99  | 2911 | 11814 | 1.77 | 1.86 | 9790 | 36454 |  | 100 |
|  | 99  | 3122 | 11702 | 1.90 | 1.80 | 9740 | 37972 |  | 100 |
|  | 97  | 3020 | 11644 | 1.86 | 1.84 | 9508 | 36579 |  | 100 |
|  | 99  | 2871 | 11429 | 1.78 | 1.81 | 9601 | 37079 |  | 100 |
|  | 98  | 2969 | 11516 | 1.84 | 1.83 | 9564 | 37316 |  | 100 |
|  | 97  | 2912 | 11571 | 1.84 | 1.76 | 9240 | 38475 |  | 100 |
|  | 100 | 2919 | 11694 | 1.83 | 1.82 | 9349 | 37595 |  | 100 |
|  | 100 | 2953 | 11784 | 1.82 | 1.85 | 9625 | 36757 |  | 100 |
|  | 100 | 2856 | 11548 | 1.83 | 1.81 | 9263 | 37059 |  | 100 |
|  | 100 | 2937 | 12053 | 1.84 | 1.83 | 9577 | 37985 |  | 100 |
|  | 99  | 2868 | 10798 | 1.81 | 1.76 | 9422 | 36257 |  | 100 |
|  | 100 | 2904 | 12071 | 1.79 | 1.84 | 9520 | 38239 |  | 100 |
|  | 99  | 2858 | 11528 | 1.85 | 1.82 | 9122 | 36974 |  | 100 |
|  | 100 | 2818 | 11749 | 1.80 | 1.80 | 9234 | 38136 |  | 100 |
|  | 99  | 2951 | 11636 | 1.87 | 1.80 | 9165 | 37687 |  | 100 |
|  | 98  | 2958 | 11560 | 1.82 | 1.83 | 9651 | 36970 |  | 100 |
|  | 99  | 2706 | 11779 | 1.74 | 1.88 | 9365 | 36349 |  | 100 |
|  | 99  | 2939 | 11521 | 1.79 | 1.79 | 9636 | 37769 |  | 100 |
|  | 99  | 3076 | 12222 | 1.93 | 1.90 | 9342 | 37155 |  | 100 |
|  | 98  | 2892 | 11690 | 1.82 | 1.83 | 9633 | 37478 |  | 100 |
|  | 100 | 2835 | 11627 | 1.79 | 1.78 | 9508 | 37617 |  | 100 |
|  | 100 | 2866 | 12352 | 1.83 | 1.89 | 9284 | 37819 |  | 100 |
|  | 100 | 2992 | 12518 | 1.89 | 1.90 | 9187 | 38044 |  | 100 |
|  | 99  | 2861 | 11426 | 1.77 | 1.78 | 9488 | 37664 |  | 100 |
|  | 99  | 2936 | 11523 | 1.85 | 1.79 | 9348 | 37458 |  | 100 |
|  | 98  | 2943 | 12153 | 1.83 | 1.90 | 9355 | 37010 |  | 100 |
|  | 99  | 2899 | 11801 | 1.82 | 1.80 | 9484 | 38235 |  | 100 |
|  | 100 | 2697 | 11493 | 1.72 | 1.82 | 9414 | 36768 |  | 100 |
|  | 100 | 2807 | 11705 | 1.73 | 1.82 | 9612 | 37190 |  | 100 |
|  | 100 | 2891 | 11921 | 1.84 | 1.81 | 9408 | 38378 |  | 100 |
|  | 99  | 3065 | 11796 | 1.92 | 1.86 | 9478 | 37013 |  | 100 |
|  | 100 | 2741 | 11558 | 1.75 | 1.78 | 9337 | 37447 |  | 100 |
|  | 99  | 2979 | 12538 | 1.84 | 1.91 | 9432 | 37849 |  | 100 |
|  | 100 | 2977 | 12127 | 1.86 | 1.88 | 9302 | 37269 |  | 100 |
|  | 99  | 2620 | 11609 | 1.68 | 1.80 | 9517 | 37901 |  | 100 |
|  | 99  | 3081 | 12223 | 1.89 | 1.88 | 9657 | 37698 |  | 100 |
|  | 99  | 2987 | 11706 | 1.90 | 1.81 | 9113 | 37661 |  | 100 |
|  | 99  | 2768 | 12466 | 1.79 | 1.87 | 9158 | 38582 |  | 100 |
|  | 100 | 2703 | 12388 | 1.73 | 1.90 | 9405 | 37197 |  | 100 |
|  | 99  | 2719 | 11727 | 1.71 | 1.82 | 9581 | 37123 |  | 100 |
|  | 99  | 2884 | 10713 | 1.84 | 1.70 | 9273 | 37567 |  | 100 |
|  | 99  | 2975 | 11311 | 1.84 | 1.77 | 9603 | 37174 |  | 100 |
|  | 99  | 2835 | 12638 | 1.84 | 1.91 | 9133 | 38336 |  | 100 |
|  | 99  | 2908 | 11951 | 1.79 | 1.87 | 9510 | 37367 |  | 100 |
|  | 100 | 2911 | 12026 | 1.81 | 1.89 | 9677 | 37059 |  | 100 |
|  | 98  | 2930 | 11846 | 1.85 | 1.84 | 9251 | 36959 |  | 100 |
|  | 98  | 2972 | 11276 | 1.88 | 1.72 | 9347 | 38673 |  | 100 |
|  | 99  | 2877 | 11957 | 1.75 | 1.87 | 9700 | 36595 |  | 100 |
|  | 99  | 3033 | 11562 | 1.85 | 1.81 | 9690 | 37630 |  | 100 |
|  | 100 | 2615 | 11893 | 1.68 | 1.83 | 9366 | 37846 |  | 100 |
|  | 99  | 2892 | 11706 | 1.86 | 1.85 | 9276 | 36449 |  | 100 |
|  | 100 | 3111 | 11259 | 1.93 | 1.77 | 9567 | 37730 |  | 100 |
|  | 100 | 3025 | 12202 | 1.89 | 1.83 | 9594 | 38855 |  | 100 |
|  | 99  | 2967 | 12428 | 1.80 | 1.90 | 9752 | 37828 |  | 100 |
|  | 100 | 2996 | 11810 | 1.88 | 1.84 | 9364 | 37224 |  | 100 |
|  | 99  | 3030 | 11349 | 1.87 | 1.78 | 9616 | 37548 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2930 | 11660 | 1.80 | 1.81 | 9551 | 37139 |  | 100 |
|  | 100 | 3043 | 11838 | 1.91 | 1.81 | 9241 | 38393 |  | 100 |
|  | 100 | 2792 | 12210 | 1.75 | 1.84 | 9697 | 38655 |  | 100 |
|  | 99  | 3060 | 12561 | 1.92 | 1.95 | 9327 | 36995 |  | 100 |
|  | 100 | 2692 | 12623 | 1.75 | 1.94 | 9413 | 37777 |  | 100 |
|  | 99  | 3098 | 12003 | 1.87 | 1.86 | 9900 | 37122 |  | 100 |
|  | 98  | 2965 | 11279 | 1.84 | 1.77 | 9377 | 37259 |  | 100 |
|  | 100 | 2834 | 11668 | 1.83 | 1.81 | 9265 | 37989 |  | 100 |
|  | 100 | 2697 | 12307 | 1.75 | 1.85 | 9149 | 37948 |  | 100 |
|  | 99  | 2763 | 11999 | 1.75 | 1.83 | 9242 | 38105 |  | 100 |
|  | 100 | 2941 | 11607 | 1.85 | 1.82 | 9389 | 37060 |  | 100 |
|  | 98  | 2950 | 11597 | 1.82 | 1.82 | 9666 | 36872 |  | 100 |
|  | 99  | 2871 | 12353 | 1.78 | 1.87 | 9498 | 38351 |  | 100 |
|  | 99  | 3000 | 12207 | 1.89 | 1.87 | 9286 | 37892 |  | 100 |
|  | 99  | 3093 | 11269 | 1.87 | 1.76 | 9724 | 37163 |  | 100 |
|  | 100 | 2804 | 12011 | 1.74 | 1.85 | 9674 | 37750 |  | 100 |
|  | 99  | 3055 | 11296 | 1.87 | 1.80 | 9630 | 36700 |  | 100 |
|  | 100 | 3033 | 12053 | 1.87 | 1.84 | 9495 | 38019 |  | 100 |
|  | 100 | 2797 | 11551 | 1.79 | 1.79 | 9321 | 37623 |  | 100 |
|  | 100 | 2796 | 12085 | 1.80 | 1.88 | 9377 | 37010 |  | 100 |
|  | 100 | 2817 | 12135 | 1.78 | 1.80 | 9283 | 39244 |  | 100 |
|  | 100 | 2882 | 11667 | 1.83 | 1.79 | 9369 | 37855 |  | 100 |
|  | 100 | 2655 | 11497 | 1.72 | 1.81 | 9275 | 36984 |  | 100 |
|  | 100 | 2707 | 11482 | 1.73 | 1.80 | 9468 | 37479 |  | 100 |
|  | 100 | 2917 | 11959 | 1.91 | 1.82 | 8906 | 38309 |  | 100 |
|  | 98  | 3164 | 11668 | 1.93 | 1.77 | 9459 | 38880 |  | 100 |
|  | 100 | 2975 | 11724 | 1.84 | 1.82 | 9673 | 37310 |  | 100 |
|  | 99  | 2973 | 11977 | 1.88 | 1.85 | 9291 | 37878 |  | 100 |
|  | 98  | 2963 | 11892 | 1.84 | 1.83 | 9468 | 37630 |  | 100 |
|  | 98  | 3095 | 11552 | 1.86 | 1.78 | 9644 | 38280 |  | 100 |
|  | 100 | 2969 | 12389 | 1.87 | 1.92 | 9382 | 37046 |  | 100 |
|  | 98  | 3012 | 11910 | 1.85 | 1.84 | 9577 | 37569 |  | 100 |
|  | 100 | 2693 | 11961 | 1.71 | 1.88 | 9467 | 36763 |  | 100 |
|  | 97  | 2899 | 11623 | 1.80 | 1.83 | 9518 | 36784 |  | 100 |
|  | 100 | 2882 | 11608 | 1.82 | 1.78 | 9386 | 38387 |  | 100 |
|  | 99  | 2965 | 11941 | 1.86 | 1.86 | 9458 | 37553 |  | 100 |
|  | 99  | 3027 | 11512 | 1.85 | 1.80 | 9636 | 37038 |  | 100 |
|  | 98  | 2988 | 11568 | 1.88 | 1.80 | 9391 | 37361 |  | 100 |
|  | 98  | 3090 | 11746 | 1.91 | 1.83 | 9529 | 38014 |  | 100 |
|  | 100 | 2878 | 12281 | 1.83 | 1.90 | 9287 | 37183 |  | 100 |
|  | 100 | 2885 | 11061 | 1.83 | 1.73 | 9468 | 37330 |  | 100 |
|  | 99  | 2775 | 12047 | 1.79 | 1.84 | 9191 | 37841 |  | 100 |
|  | 99  | 2942 | 11517 | 1.87 | 1.80 | 9278 | 37569 |  | 100 |
|  | 97  | 2897 | 11931 | 1.80 | 1.86 | 9606 | 37260 |  | 100 |
|  | 100 | 2904 | 12325 | 1.84 | 1.89 | 9322 | 37754 |  | 100 |
|  | 100 | 2741 | 11941 | 1.71 | 1.86 | 9588 | 37633 |  | 100 |
|  | 100 | 2968 | 11707 | 1.81 | 1.81 | 9673 | 37472 |  | 100 |
|  | 98  | 2854 | 11348 | 1.81 | 1.78 | 9444 | 37059 |  | 100 |
|  | 97  | 2864 | 11292 | 1.79 | 1.78 | 9450 | 36683 |  | 100 |
|  | 99  | 3090 | 11561 | 1.92 | 1.82 | 9587 | 36901 |  | 100 |
|  | 100 | 2841 | 11187 | 1.82 | 1.75 | 9462 | 37412 |  | 100 |
|  | 100 | 3013 | 12069 | 1.84 | 1.84 | 9593 | 38301 |  | 100 |
|  | 100 | 3067 | 11852 | 1.97 | 1.85 | 9178 | 37092 |  | 100 |
|  | 99  | 2874 | 11161 | 1.85 | 1.75 | 9199 | 37914 |  | 100 |
|  | 98  | 3010 | 11493 | 1.89 | 1.79 | 9389 | 37004 |  | 100 |
|  | 100 | 2565 | 12364 | 1.70 | 1.87 | 9178 | 38457 |  | 100 |
|  | 100 | 3110 | 12553 | 1.93 | 1.87 | 9417 | 38546 |  | 100 |
|  | 99  | 2716 | 11644 | 1.71 | 1.83 | 9374 | 36623 |  | 100 |
|  | 98  | 2842 | 11470 | 1.77 | 1.82 | 9594 | 36755 |  | 100 |
|  | 99  | 2975 | 12312 | 1.87 | 1.91 | 9360 | 37156 |  | 100 |
|  | 100 | 2667 | 12262 | 1.70 | 1.83 | 9294 | 38697 |  | 100 |
|  | 100 | 2937 | 11979 | 1.84 | 1.80 | 9539 | 38935 |  | 100 |
|  | 100 | 2860 | 12146 | 1.81 | 1.88 | 9322 | 37696 |  | 100 |
|  | 99  | 2906 | 11307 | 1.79 | 1.77 | 9460 | 37679 |  | 100 |
|  | 100 | 2973 | 11954 | 1.82 | 1.87 | 9566 | 37038 |  | 100 |
|  | 99  | 2707 | 12030 | 1.76 | 1.83 | 9259 | 37829 |  | 100 |
|  | 100 | 3040 | 12599 | 1.90 | 1.89 | 9361 | 38408 |  | 100 |
|  | 100 | 2841 | 12345 | 1.78 | 1.95 | 9391 | 36712 |  | 100 |
|  | 99  | 2843 | 11830 | 1.75 | 1.84 | 9791 | 37174 |  | 100 |
|  | 96  | 3136 | 11691 | 1.94 | 1.82 | 9583 | 37433 |  | 100 |
|  | 98  | 3073 | 11216 | 1.87 | 1.79 | 9601 | 36417 |  | 100 |
|  | 99  | 2963 | 11943 | 1.81 | 1.82 | 9654 | 37701 |  | 100 |
|  | 100 | 2981 | 11740 | 1.88 | 1.83 | 9291 | 37728 |  | 100 |
|  | 100 | 2899 | 11512 | 1.82 | 1.78 | 9450 | 37468 |  | 100 |
|  | 99  | 2936 | 10862 | 1.83 | 1.73 | 9457 | 36834 |  | 100 |
|  | 99  | 2966 | 11217 | 1.83 | 1.76 | 9531 | 37141 |  | 100 |
|  | 98  | 3025 | 11745 | 1.85 | 1.82 | 9566 | 37217 |  | 100 |
|  | 100 | 2855 | 12692 | 1.86 | 1.93 | 9081 | 38397 |  | 100 |
|  | 99  | 3064 | 11703 | 1.93 | 1.81 | 9304 | 37648 |  | 100 |
|  | 100 | 2747 | 12214 | 1.77 | 1.91 | 9279 | 36651 |  | 100 |
|  | 99  | 2798 | 11438 | 1.76 | 1.81 | 9445 | 37355 |  | 100 |
|  | 98  | 2963 | 12138 | 1.85 | 1.89 | 9358 | 37147 |  | 100 |
|  | 97  | 2814 | 11778 | 1.79 | 1.84 | 9335 | 37137 |  | 100 |
|  | 98  | 3040 | 12131 | 1.87 | 1.86 | 9558 | 37831 |  | 100 |
|  | 100 | 2982 | 12414 | 1.90 | 1.87 | 9312 | 38360 |  | 100 |
|  | 98  | 2880 | 11313 | 1.84 | 1.76 | 9203 | 37386 |  | 100 |
|  | 96  | 3012 | 11435 | 1.85 | 1.80 | 9540 | 36845 |  | 100 |
|  | 100 | 2979 | 11873 | 1.81 | 1.90 | 9588 | 36334 |  | 100 |
|  | 99  | 2787 | 11468 | 1.77 | 1.79 | 9363 | 37177 |  | 100 |
|  | 99  | 3055 | 10999 | 1.87 | 1.72 | 9702 | 37468 |  | 100 |
|  | 98  | 3049 | 11767 | 1.90 | 1.83 | 9444 | 37712 |  | 100 |
|  | 100 | 2899 | 12060 | 1.86 | 1.85 | 9284 | 37735 |  | 100 |
|  | 100 | 2701 | 12356 | 1.73 | 1.89 | 9373 | 37238 |  | 100 |
|  | 99  | 3068 | 11408 | 1.86 | 1.78 | 9757 | 37584 |  | 100 |
|  | 100 | 2679 | 12203 | 1.79 | 1.87 | 9033 | 37455 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2925 | 11837 | 1.84 | 1.83 | 9418 | 37801 |  | 100 |
|  | 100 | 2937 | 11688 | 1.86 | 1.85 | 9282 | 36217 |  | 100 |
|  | 99  | 2875 | 11308 | 1.80 | 1.78 | 9350 | 37148 |  | 100 |
|  | 100 | 2944 | 12489 | 1.86 | 1.90 | 9308 | 38599 |  | 100 |
|  | 99  | 2878 | 11864 | 1.86 | 1.84 | 9243 | 37542 |  | 100 |
|  | 100 | 2956 | 11091 | 1.83 | 1.75 | 9468 | 37377 |  | 100 |
|  | 98  | 3003 | 11554 | 1.84 | 1.79 | 9548 | 37902 |  | 100 |
|  | 97  | 3021 | 11548 | 1.88 | 1.84 | 9579 | 36613 |  | 100 |
|  | 100 | 2847 | 12160 | 1.79 | 1.83 | 9303 | 38183 |  | 100 |
|  | 99  | 2758 | 12545 | 1.75 | 1.91 | 9328 | 38084 |  | 100 |
|  | 98  | 2985 | 11427 | 1.85 | 1.78 | 9441 | 37395 |  | 100 |
|  | 99  | 2852 | 11348 | 1.82 | 1.78 | 9254 | 37311 |  | 100 |
|  | 97  | 3024 | 12070 | 1.84 | 1.85 | 9770 | 38232 |  | 100 |
|  | 100 | 2985 | 11500 | 1.89 | 1.79 | 9273 | 37773 |  | 100 |
|  | 100 | 2931 | 11051 | 1.81 | 1.73 | 9619 | 37262 |  | 100 |
|  | 100 | 2890 | 11788 | 1.80 | 1.78 | 9531 | 38819 |  | 100 |
|  | 100 | 2929 | 11763 | 1.84 | 1.87 | 9526 | 36652 |  | 100 |
|  | 100 | 3087 | 12409 | 1.86 | 1.91 | 9746 | 37292 |  | 100 |
|  | 100 | 2818 | 12509 | 1.80 | 1.91 | 9311 | 37605 |  | 100 |
|  | 98  | 3006 | 11907 | 1.87 | 1.81 | 9505 | 38747 |  | 100 |
|  | 100 | 2808 | 11930 | 1.78 | 1.87 | 9338 | 37053 |  | 100 |
|  | 100 | 2802 | 11587 | 1.77 | 1.86 | 9432 | 36157 |  | 100 |
|  | 100 | 2961 | 12099 | 1.86 | 1.86 | 9501 | 37648 |  | 100 |
|  | 98  | 2800 | 11913 | 1.77 | 1.84 | 9412 | 37545 |  | 100 |
|  | 97  | 3055 | 11713 | 1.84 | 1.83 | 9808 | 37278 |  | 100 |
|  | 99  | 2845 | 11964 | 1.80 | 1.86 | 9242 | 37713 |  | 100 |
|  | 99  | 2954 | 11220 | 1.84 | 1.78 | 9476 | 37139 |  | 100 |
|  | 100 | 3027 | 11937 | 1.87 | 1.86 | 9510 | 36908 |  | 100 |
|  | 100 | 2963 | 11840 | 1.83 | 1.87 | 9530 | 37213 |  | 100 |
|  | 100 | 2757 | 12431 | 1.76 | 1.86 | 9290 | 38322 |  | 100 |
|  | 97  | 2896 | 11684 | 1.81 | 1.83 | 9412 | 37442 |  | 100 |
|  | 98  | 2936 | 11896 | 1.81 | 1.83 | 9517 | 37633 |  | 100 |
|  | 100 | 2861 | 11517 | 1.83 | 1.81 | 9371 | 37465 |  | 100 |
|  | 99  | 3101 | 13002 | 1.91 | 1.98 | 9563 | 37963 |  | 100 |
|  | 100 | 2910 | 11470 | 1.85 | 1.82 | 9309 | 36551 |  | 100 |
|  | 98  | 2708 | 11293 | 1.75 | 1.72 | 9368 | 38616 |  | 100 |
|  | 99  | 3202 | 11777 | 1.95 | 1.86 | 9448 | 36602 |  | 100 |
|  | 100 | 2871 | 11349 | 1.74 | 1.81 | 9919 | 36824 |  | 100 |
|  | 100 | 2828 | 11673 | 1.75 | 1.87 | 9709 | 36009 |  | 100 |
|  | 99  | 2716 | 11531 | 1.71 | 1.79 | 9469 | 37668 |  | 100 |
|  | 100 | 2924 | 12498 | 1.84 | 1.85 | 9427 | 39696 |  | 100 |
|  | 100 | 3128 | 12268 | 1.99 | 1.85 | 9184 | 38555 |  | 100 |
|  | 99  | 3061 | 11424 | 1.94 | 1.82 | 9250 | 37122 |  | 100 |
|  | 100 | 2844 | 11710 | 1.79 | 1.79 | 9321 | 38168 |  | 100 |
|  | 98  | 3005 | 12709 | 1.89 | 1.92 | 9296 | 38348 |  | 100 |
|  | 98  | 2906 | 11532 | 1.85 | 1.83 | 9203 | 36643 |  | 100 |
|  | 99  | 2925 | 11655 | 1.83 | 1.82 | 9541 | 37401 |  | 100 |
|  | 100 | 3065 | 11358 | 1.89 | 1.83 | 9626 | 35919 |  | 100 |
|  | 100 | 2770 | 11604 | 1.76 | 1.78 | 9249 | 38199 |  | 100 |
|  | 98  | 3083 | 12053 | 1.93 | 1.84 | 9314 | 38218 |  | 100 |
|  | 100 | 2903 | 12302 | 1.83 | 1.91 | 9392 | 36537 |  | 100 |
|  | 100 | 2685 | 11807 | 1.67 | 1.86 | 9843 | 36766 |  | 100 |
|  | 100 | 2901 | 11544 | 1.87 | 1.81 | 9370 | 36848 |  | 100 |
|  | 98  | 2969 | 12258 | 1.86 | 1.83 | 9224 | 38890 |  | 100 |
|  | 99  | 3151 | 11262 | 1.98 | 1.80 | 9363 | 36622 |  | 100 |
|  | 99  | 2890 | 11378 | 1.79 | 1.76 | 9450 | 37965 |  | 100 |
|  | 97  | 2995 | 11844 | 1.84 | 1.87 | 9505 | 37199 |  | 100 |
|  | 100 | 2661 | 12027 | 1.76 | 1.81 | 9151 | 38558 |  | 100 |
|  | 98  | 3197 | 11455 | 1.92 | 1.79 | 9588 | 36993 |  | 100 |
|  | 99  | 2854 | 11702 | 1.74 | 1.84 | 9686 | 36974 |  | 100 |
|  | 98  | 2997 | 11867 | 1.85 | 1.80 | 9640 | 38476 |  | 100 |
|  | 100 | 2932 | 11648 | 1.87 | 1.82 | 9081 | 37921 |  | 100 |
|  | 98  | 2711 | 11234 | 1.77 | 1.82 | 9175 | 36002 |  | 100 |
|  | 100 | 3053 | 12783 | 1.84 | 1.90 | 9821 | 38284 |  | 100 |
|  | 100 | 2779 | 12021 | 1.78 | 1.86 | 9153 | 37246 |  | 100 |
|  | 100 | 2725 | 11963 | 1.71 | 1.80 | 9644 | 39150 |  | 100 |
|  | 99  | 3021 | 11607 | 1.93 | 1.81 | 9091 | 37354 |  | 100 |
|  | 100 | 2880 | 10811 | 1.82 | 1.75 | 9446 | 36600 |  | 100 |
|  | 99  | 2915 | 11904 | 1.84 | 1.90 | 9597 | 36501 |  | 100 |
|  | 96  | 2878 | 11868 | 1.80 | 1.82 | 9416 | 38563 |  | 100 |
|  | 100 | 3081 | 11776 | 1.88 | 1.83 | 9687 | 37771 |  | 100 |
|  | 99  | 2683 | 11209 | 1.75 | 1.77 | 9094 | 37290 |  | 100 |
|  | 99  | 2689 | 11749 | 1.74 | 1.82 | 9383 | 36991 |  | 100 |
|  | 100 | 3136 | 12156 | 1.98 | 1.89 | 9355 | 36968 |  | 100 |
|  | 100 | 2838 | 11845 | 1.82 | 1.86 | 9393 | 37075 |  | 100 |
|  | 100 | 2899 | 11762 | 1.81 | 1.85 | 9293 | 36728 |  | 100 |
|  | 98  | 2767 | 11215 | 1.78 | 1.80 | 9205 | 36742 |  | 100 |
|  | 100 | 2783 | 12069 | 1.76 | 1.87 | 9454 | 37262 |  | 100 |
|  | 100 | 2792 | 12175 | 1.86 | 1.88 | 8877 | 37372 |  | 100 |
|  | 100 | 2847 | 11472 | 1.78 | 1.78 | 9584 | 37387 |  | 100 |
|  | 98  | 2823 | 12335 | 1.76 | 1.90 | 9600 | 37410 |  | 100 |
|  | 100 | 2704 | 11478 | 1.77 | 1.79 | 9150 | 37510 |  | 100 |
|  | 100 | 3044 | 12567 | 1.90 | 1.92 | 9436 | 37434 |  | 100 |
|  | 98  | 2859 | 11029 | 1.82 | 1.78 | 9321 | 36419 |  | 100 |
|  | 98  | 3104 | 11460 | 1.89 | 1.78 | 9671 | 37562 |  | 100 |
|  | 99  | 3017 | 11896 | 1.88 | 1.84 | 9403 | 37517 |  | 100 |
|  | 100 | 2652 | 11974 | 1.72 | 1.88 | 9467 | 37088 |  | 100 |
|  | 100 | 2979 | 11052 | 1.88 | 1.69 | 9292 | 38412 |  | 100 |
|  | 99  | 2972 | 11096 | 1.79 | 1.72 | 9797 | 38374 |  | 100 |
|  | 100 | 2847 | 11571 | 1.82 | 1.82 | 9213 | 36867 |  | 100 |
|  | 100 | 2857 | 12643 | 1.81 | 1.95 | 9459 | 37123 |  | 100 |
|  | 100 | 2880 | 11866 | 1.83 | 1.89 | 9420 | 36649 |  | 100 |
|  | 100 | 2686 | 11988 | 1.75 | 1.85 | 9349 | 37804 |  | 100 |
|  | 100 | 2858 | 11815 | 1.85 | 1.83 | 9145 | 37164 |  | 100 |
|  | 100 | 2957 | 11249 | 1.82 | 1.81 | 9522 | 36569 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 98  | 2849 | 12111 | 1.77 | 1.85 | 9588 | 37871 |  | 100 |
|  | 99  | 2913 | 12000 | 1.87 | 1.88 | 9218 | 37239 |  | 100 |
|  | 100 | 2943 | 11915 | 1.78 | 1.85 | 9727 | 37483 |  | 100 |
|  | 99  | 2868 | 11635 | 1.85 | 1.84 | 9214 | 36587 |  | 100 |
|  | 100 | 2944 | 11708 | 1.82 | 1.82 | 9648 | 37361 |  | 100 |
|  | 100 | 2712 | 11778 | 1.77 | 1.88 | 9109 | 36877 |  | 100 |
|  | 99  | 2878 | 11988 | 1.80 | 1.84 | 9409 | 37771 |  | 100 |
|  | 100 | 2939 | 12326 | 1.89 | 1.87 | 9047 | 37847 |  | 100 |
|  | 98  | 2917 | 11269 | 1.86 | 1.81 | 9257 | 36175 |  | 100 |
|  | 98  | 3024 | 11457 | 1.85 | 1.81 | 9615 | 36897 |  | 100 |
|  | 97  | 2925 | 10675 | 1.84 | 1.74 | 9645 | 36354 |  | 100 |
|  | 100 | 2868 | 11510 | 1.74 | 1.79 | 9768 | 37374 |  | 100 |
|  | 98  | 3160 | 12324 | 1.92 | 1.88 | 9596 | 38085 |  | 100 |
|  | 99  | 2877 | 11742 | 1.83 | 1.83 | 9363 | 37394 |  | 100 |
|  | 98  | 2840 | 11706 | 1.81 | 1.79 | 9328 | 38318 |  | 100 |
|  | 100 | 2742 | 12212 | 1.79 | 1.87 | 9156 | 37073 |  | 100 |
|  | 100 | 2698 | 11693 | 1.72 | 1.82 | 9400 | 37411 |  | 100 |
|  | 99  | 3022 | 12030 | 1.95 | 1.89 | 9248 | 36811 |  | 100 |
|  | 100 | 2882 | 10780 | 1.81 | 1.74 | 9485 | 36227 |  | 100 |
|  | 100 | 2842 | 11580 | 1.79 | 1.77 | 9386 | 37933 |  | 100 |
|  | 100 | 3042 | 11733 | 1.92 | 1.79 | 9223 | 37891 |  | 100 |
|  | 100 | 2908 | 11754 | 1.84 | 1.85 | 9434 | 36692 |  | 100 |
|  | 99  | 2792 | 11307 | 1.75 | 1.75 | 9498 | 37730 |  | 100 |
|  | 100 | 2883 | 12078 | 1.81 | 1.87 | 9382 | 37607 |  | 100 |
|  | 100 | 2657 | 11179 | 1.75 | 1.83 | 9252 | 36163 |  | 100 |
|  | 98  | 2864 | 10912 | 1.80 | 1.74 | 9453 | 37159 |  | 100 |
|  | 99  | 2895 | 12665 | 1.81 | 1.88 | 9604 | 38445 |  | 100 |
|  | 99  | 3033 | 11548 | 1.90 | 1.83 | 9355 | 36445 |  | 100 |
|  | 100 | 2673 | 12043 | 1.68 | 1.86 | 9693 | 38134 |  | 100 |
|  | 99  | 3013 | 12417 | 1.88 | 1.94 | 9682 | 37359 |  | 100 |
|  | 99  | 2774 | 11472 | 1.82 | 1.81 | 9021 | 36669 |  | 100 |
|  | 99  | 2814 | 11272 | 1.80 | 1.79 | 9240 | 36889 |  | 100 |
|  | 100 | 2878 | 12091 | 1.86 | 1.88 | 9230 | 37231 |  | 100 |
|  | 100 | 2758 | 11096 | 1.74 | 1.76 | 9527 | 37218 |  | 100 |
|  | 99  | 3086 | 11159 | 1.82 | 1.74 | 9927 | 37950 |  | 100 |
|  | 100 | 2810 | 12497 | 1.78 | 1.92 | 9319 | 37710 |  | 100 |
|  | 99  | 2862 | 11353 | 1.78 | 1.79 | 9579 | 36933 |  | 100 |
|  | 99  | 2982 | 11856 | 1.85 | 1.87 | 9466 | 36555 |  | 100 |
|  | 99  | 2762 | 12006 | 1.72 | 1.83 | 9643 | 37843 |  | 100 |
|  | 100 | 2853 | 11282 | 1.82 | 1.81 | 9216 | 36361 |  | 100 |
|  | 98  | 2899 | 10812 | 1.82 | 1.72 | 9521 | 37455 |  | 100 |
|  | 99  | 2830 | 11848 | 1.80 | 1.83 | 9230 | 37747 |  | 100 |
|  | 100 | 2878 | 10938 | 1.84 | 1.79 | 9285 | 35990 |  | 100 |
|  | 100 | 2908 | 11474 | 1.83 | 1.80 | 9375 | 36844 |  | 100 |
|  | 100 | 2735 | 11718 | 1.74 | 1.85 | 9361 | 37053 |  | 100 |
|  | 98  | 2786 | 11278 | 1.78 | 1.76 | 9335 | 37368 |  | 100 |
|  | 100 | 2925 | 12001 | 1.88 | 1.87 | 9154 | 37170 |  | 100 |
|  | 99  | 2749 | 11183 | 1.82 | 1.77 | 9231 | 37464 |  | 100 |
|  | 98  | 3041 | 12570 | 1.84 | 1.89 | 9661 | 37911 |  | 100 |
|  | 99  | 2776 | 11412 | 1.79 | 1.84 | 9333 | 36478 |  | 100 |
|  | 98  | 2863 | 11087 | 1.79 | 1.75 | 9624 | 37315 |  | 100 |
|  | 100 | 3021 | 12172 | 1.82 | 1.85 | 9649 | 38452 |  | 100 |
|  | 98  | 2988 | 11482 | 1.92 | 1.82 | 9152 | 36233 |  | 100 |
|  | 100 | 2811 | 11577 | 1.75 | 1.81 | 9650 | 37492 |  | 100 |
|  | 100 | 2923 | 11207 | 1.85 | 1.81 | 9262 | 35729 |  | 100 |
|  | 100 | 2995 | 12046 | 1.82 | 1.84 | 9659 | 38195 |  | 100 |
|  | 100 | 2994 | 12515 | 1.92 | 1.92 | 9181 | 37541 |  | 100 |
|  | 98  | 3145 | 12320 | 1.92 | 1.86 | 9563 | 38683 |  | 100 |
|  | 100 | 2830 | 12239 | 1.79 | 1.94 | 9308 | 36241 |  | 100 |
|  | 100 | 2750 | 12407 | 1.73 | 1.93 | 9486 | 37514 |  | 100 |
|  | 100 | 3056 | 12420 | 1.87 | 1.91 | 9506 | 37391 |  | 100 |
|  | 99  | 2995 | 11498 | 1.82 | 1.79 | 9714 | 37305 |  | 100 |
|  | 100 | 2806 | 11524 | 1.77 | 1.83 | 9526 | 36725 |  | 100 |
|  | 99  | 2811 | 11868 | 1.74 | 1.82 | 9664 | 37684 |  | 100 |
|  | 99  | 3019 | 11432 | 1.89 | 1.83 | 9308 | 36271 |  | 100 |
|  | 100 | 2995 | 11725 | 1.83 | 1.78 | 9681 | 38150 |  | 100 |
|  | 100 | 2769 | 12681 | 1.79 | 1.97 | 9148 | 36816 |  | 100 |
|  | 100 | 2897 | 12074 | 1.80 | 1.83 | 9687 | 37845 |  | 100 |
|  | 98  | 2724 | 11976 | 1.78 | 1.86 | 9193 | 37208 |  | 100 |
|  | 100 | 2921 | 11581 | 1.78 | 1.79 | 9616 | 37632 |  | 100 |
|  | 99  | 2706 | 11843 | 1.78 | 1.84 | 9216 | 37082 |  | 100 |
|  | 98  | 2985 | 11653 | 1.82 | 1.78 | 9665 | 38275 |  | 100 |
|  | 100 | 2963 | 11864 | 1.81 | 1.84 | 9654 | 37485 |  | 100 |
|  | 100 | 2925 | 11567 | 1.82 | 1.81 | 9358 | 37308 |  | 100 |
|  | 99  | 2827 | 13042 | 1.80 | 1.93 | 9236 | 38824 |  | 100 |
|  | 100 | 2843 | 11180 | 1.79 | 1.75 | 9687 | 37441 |  | 100 |
|  | 99  | 2950 | 10931 | 1.91 | 1.76 | 9176 | 36616 |  | 100 |
|  | 98  | 3018 | 11201 | 1.87 | 1.77 | 9454 | 37114 |  | 100 |
|  | 100 | 2983 | 12024 | 1.81 | 1.82 | 9764 | 38305 |  | 100 |
|  | 98  | 2759 | 11636 | 1.83 | 1.86 | 9028 | 36881 |  | 100 |
|  | 100 | 2852 | 11881 | 1.80 | 1.80 | 9368 | 38416 |  | 100 |
|  | 100 | 2942 | 11872 | 1.85 | 1.86 | 9243 | 36526 |  | 100 |
|  | 98  | 2927 | 11541 | 1.84 | 1.78 | 9335 | 37682 |  | 100 |
|  | 99  | 2823 | 12046 | 1.75 | 1.82 | 9666 | 38196 |  | 100 |
|  | 100 | 2911 | 11142 | 1.85 | 1.79 | 9319 | 36322 |  | 100 |
|  | 100 | 2805 | 11549 | 1.78 | 1.83 | 9292 | 36941 |  | 100 |
|  | 100 | 2958 | 12380 | 1.81 | 1.86 | 9755 | 38702 |  | 100 |
|  | 100 | 2895 | 11878 | 1.81 | 1.87 | 9486 | 37251 |  | 100 |
|  | 99  | 2729 | 12068 | 1.73 | 1.85 | 9598 | 37767 |  | 100 |
|  | 98  | 2826 | 11776 | 1.74 | 1.79 | 9900 | 38384 |  | 100 |
|  | 99  | 2993 | 11801 | 1.82 | 1.84 | 9701 | 37570 |  | 100 |
|  | 99  | 2710 | 10907 | 1.77 | 1.74 | 9097 | 36928 |  | 100 |
|  | 98  | 3092 | 11755 | 1.88 | 1.85 | 9625 | 36668 |  | 100 |
|  | 99  | 2993 | 11112 | 1.89 | 1.85 | 9326 | 35468 |  | 100 |
|  | 99  | 2810 | 11600 | 1.80 | 1.82 | 9304 | 36956 |  | 100 |



|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2819 | 11615 | 1.75 | 1.82 | 9647 | 37828 |  | 100 |
|  | 100 | 2850 | 11819 | 1.82 | 1.85 | 9371 | 36872 |  | 100 |
|  | 100 | 2628 | 11675 | 1.71 | 1.77 | 9375 | 38381 |  | 100 |
|  | 100 | 2929 | 11561 | 1.84 | 1.83 | 9326 | 36685 |  | 100 |
|  | 100 | 3175 | 11980 | 1.89 | 1.83 | 9681 | 38067 |  | 100 |
|  | 99  | 2726 | 11765 | 1.73 | 1.82 | 9528 | 37014 |  | 100 |
|  | 99  | 3016 | 12455 | 1.82 | 1.89 | 9819 | 38075 |  | 100 |
|  | 100 | 3017 | 11413 | 1.92 | 1.82 | 9171 | 37000 |  | 100 |
|  | 100 | 2929 | 12693 | 1.79 | 1.89 | 9633 | 38677 |  | 100 |
|  | 98  | 2671 | 11448 | 1.75 | 1.83 | 9265 | 37139 |  | 100 |
|  | 97  | 2982 | 11981 | 1.88 | 1.80 | 9230 | 38847 |  | 100 |
|  | 100 | 2662 | 11315 | 1.72 | 1.80 | 9240 | 36630 |  | 100 |
|  | 100 | 3158 | 11526 | 1.88 | 1.80 | 9799 | 37696 |  | 100 |
|  | 98  | 2729 | 11134 | 1.78 | 1.77 | 9195 | 37072 |  | 100 |
|  | 98  | 2995 | 12595 | 1.83 | 1.88 | 9760 | 38343 |  | 100 |
|  | 99  | 2897 | 11581 | 1.82 | 1.84 | 9387 | 36732 |  | 100 |
|  | 99  | 2728 | 11845 | 1.70 | 1.81 | 9585 | 37818 |  | 100 |
|  | 100 | 2810 | 12763 | 1.79 | 1.95 | 9425 | 37415 |  | 100 |
|  | 99  | 2833 | 11454 | 1.74 | 1.77 | 9572 | 38453 |  | 100 |
|  | 99  | 2894 | 11801 | 1.83 | 1.83 | 9364 | 37753 |  | 100 |
|  | 100 | 2725 | 11300 | 1.77 | 1.80 | 9388 | 36496 |  | 100 |
|  | 98  | 2821 | 11036 | 1.75 | 1.72 | 9617 | 38076 |  | 100 |
|  | 98  | 3128 | 11727 | 1.95 | 1.81 | 9508 | 37558 |  | 100 |
|  | 100 | 2906 | 10882 | 1.87 | 1.75 | 9120 | 36282 |  | 100 |
|  | 99  | 2735 | 11721 | 1.76 | 1.80 | 9391 | 37739 |  | 100 |
|  | 98  | 2887 | 12042 | 1.83 | 1.91 | 9305 | 36441 |  | 100 |
|  | 100 | 2797 | 11686 | 1.79 | 1.84 | 9398 | 37281 |  | 100 |
|  | 99  | 2830 | 12521 | 1.76 | 1.88 | 9643 | 38944 |  | 100 |
|  | 100 | 3010 | 12072 | 1.89 | 1.88 | 9209 | 37085 |  | 100 |
|  | 100 | 2934 | 11585 | 1.82 | 1.80 | 9522 | 37386 |  | 100 |
|  | 98  | 2954 | 11169 | 1.82 | 1.81 | 9662 | 35974 |  | 100 |
|  | 99  | 2837 | 11848 | 1.82 | 1.89 | 9372 | 36683 |  | 100 |
|  | 100 | 2900 | 12658 | 1.83 | 1.90 | 9415 | 38782 |  | 100 |
|  | 99  | 2832 | 12019 | 1.75 | 1.87 | 9761 | 37328 |  | 100 |
|  | 99  | 3069 | 11991 | 1.86 | 1.81 | 9737 | 38755 |  | 100 |
|  | 100 | 3018 | 11798 | 1.91 | 1.84 | 9140 | 37126 |  | 100 |
|  | 100 | 2991 | 11528 | 1.85 | 1.78 | 9538 | 37716 |  | 100 |
|  | 100 | 2874 | 11489 | 1.76 | 1.77 | 9855 | 38179 |  | 100 |
|  | 99  | 2771 | 11504 | 1.79 | 1.81 | 9353 | 36786 |  | 100 |
|  | 99  | 3006 | 11993 | 1.88 | 1.85 | 9479 | 37798 |  | 100 |
|  | 100 | 2778 | 12181 | 1.78 | 1.91 | 9333 | 37128 |  | 100 |
|  | 99  | 2991 | 12148 | 1.84 | 1.85 | 9613 | 38221 |  | 100 |
|  | 98  | 2621 | 11502 | 1.73 | 1.81 | 9275 | 36801 |  | 100 |
|  | 100 | 2807 | 11891 | 1.75 | 1.82 | 9718 | 38458 |  | 100 |
|  | 100 | 2920 | 11519 | 1.85 | 1.87 | 9229 | 35945 |  | 100 |
|  | 99  | 3144 | 12391 | 1.89 | 1.92 | 9724 | 36986 |  | 100 |
|  | 100 | 2778 | 12116 | 1.81 | 1.88 | 9099 | 37258 |  | 100 |
|  | 100 | 2597 | 10777 | 1.69 | 1.72 | 9281 | 37186 |  | 100 |
|  | 100 | 2807 | 11252 | 1.76 | 1.77 | 9587 | 36981 |  | 100 |
|  | 100 | 3172 | 11798 | 1.92 | 1.84 | 9501 | 37105 |  | 100 |
|  | 100 | 2563 | 11096 | 1.68 | 1.75 | 9400 | 36770 |  | 100 |
|  | 100 | 2831 | 12377 | 1.78 | 1.86 | 9493 | 38641 |  | 100 |
|  | 98  | 2944 | 12383 | 1.86 | 1.89 | 9343 | 38300 |  | 100 |
|  | 99  | 2687 | 11634 | 1.78 | 1.80 | 9011 | 37353 |  | 100 |
|  | 100 | 2994 | 12467 | 1.83 | 1.86 | 9708 | 39053 |  | 100 |
|  | 96  | 3076 | 11832 | 1.96 | 1.84 | 9268 | 37260 |  | 100 |
|  | 100 | 2714 | 11796 | 1.74 | 1.81 | 9317 | 37622 |  | 100 |
|  | 100 | 3043 | 11704 | 1.91 | 1.83 | 9334 | 37035 |  | 100 |
|  | 99  | 2883 | 11442 | 1.81 | 1.80 | 9624 | 36905 |  | 100 |
|  | 100 | 2914 | 11962 | 1.80 | 1.88 | 9500 | 36771 |  | 100 |
|  | 100 | 2642 | 11421 | 1.74 | 1.77 | 9170 | 37765 |  | 100 |
|  | 100 | 2954 | 11514 | 1.84 | 1.78 | 9557 | 37511 |  | 100 |
|  | 100 | 2889 | 12217 | 1.78 | 1.87 | 9642 | 37915 |  | 100 |
|  | 97  | 3061 | 11806 | 1.90 | 1.84 | 9484 | 37208 |  | 100 |
|  | 100 | 2698 | 12129 | 1.74 | 1.85 | 9435 | 37893 |  | 100 |
|  | 100 | 2971 | 11748 | 1.81 | 1.83 | 9701 | 37133 |  | 100 |
|  | 100 | 2916 | 11856 | 1.78 | 1.81 | 9749 | 38036 |  | 100 |
|  | 100 | 3038 | 11489 | 1.88 | 1.80 | 9619 | 36946 |  | 100 |
|  | 99  | 2805 | 11240 | 1.88 | 1.77 | 8768 | 36921 |  | 100 |
|  | 100 | 2775 | 12112 | 1.72 | 1.86 | 9630 | 38120 |  | 100 |
|  | 100 | 2948 | 12083 | 1.92 | 1.90 | 9126 | 36920 |  | 100 |
|  | 98  | 3053 | 11833 | 1.88 | 1.79 | 9694 | 38773 |  | 100 |
|  | 100 | 3001 | 11707 | 1.86 | 1.83 | 9416 | 36673 |  | 100 |
|  | 100 | 3243 | 12489 | 1.99 | 1.88 | 9525 | 38513 |  | 100 |
|  | 99  | 2723 | 11334 | 1.76 | 1.83 | 9240 | 36084 |  | 100 |
|  | 100 | 2895 | 12539 | 1.83 | 1.90 | 9320 | 38555 |  | 100 |
|  | 100 | 2701 | 12372 | 1.77 | 1.92 | 9098 | 37419 |  | 100 |
|  | 100 | 2899 | 11980 | 1.84 | 1.86 | 9324 | 37326 |  | 100 |
|  | 99  | 3100 | 11678 | 1.97 | 1.87 | 9298 | 35894 |  | 100 |
|  | 100 | 3136 | 12099 | 1.89 | 1.86 | 9650 | 37660 |  | 100 |
|  | 100 | 2759 | 12407 | 1.75 | 1.90 | 9421 | 37660 |  | 100 |
|  | 100 | 2656 | 11706 | 1.66 | 1.80 | 9692 | 37986 |  | 100 |
|  | 98  | 2919 | 11963 | 1.84 | 1.85 | 9341 | 37285 |  | 100 |
|  | 98  | 2969 | 11563 | 1.83 | 1.79 | 9783 | 37776 |  | 100 |
|  | 100 | 2765 | 11210 | 1.76 | 1.80 | 9507 | 36423 |  | 100 |
|  | 98  | 3103 | 11502 | 1.92 | 1.81 | 9327 | 37191 |  | 100 |
|  | 100 | 2825 | 12017 | 1.76 | 1.87 | 9406 | 36887 |  | 100 |
|  | 100 | 2950 | 12161 | 1.82 | 1.84 | 9561 | 38466 |  | 100 |
|  | 100 | 2802 | 12147 | 1.86 | 1.92 | 8984 | 37408 |  | 100 |
|  | 100 | 3065 | 11619 | 1.94 | 1.77 | 9275 | 38655 |  | 100 |
|  | 99  | 3069 | 11800 | 1.96 | 1.89 | 9154 | 36735 |  | 100 |
|  | 99  | 2961 | 11373 | 1.86 | 1.79 | 9417 | 37528 |  | 100 |
|  | 100 | 3080 | 12391 | 1.88 | 1.91 | 9585 | 36975 |  | 100 |
|  | 99  | 2698 | 11902 | 1.72 | 1.81 | 9434 | 38389 |  | 100 |
|  | 100 | 2810 | 12154 | 1.78 | 1.89 | 9387 | 37364 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 98  | 2965 | 11574 | 1.94 | 1.85 | 8883 | 36321 | 100 |
|  | 100 | 2957 | 11436 | 1.86 | 1.78 | 9419 | 37136 | 100 |
|  | 98  | 2773 | 11098 | 1.79 | 1.79 | 9187 | 35963 | 100 |
|  | 100 | 2843 | 11843 | 1.82 | 1.81 | 9201 | 37813 | 100 |
|  | 100 | 2970 | 12112 | 1.87 | 1.87 | 9413 | 37647 | 100 |
|  | 98  | 3065 | 11700 | 1.89 | 1.79 | 9527 | 38281 | 100 |
|  | 100 | 3046 | 12850 | 1.88 | 1.95 | 9528 | 37797 | 100 |
|  | 100 | 2614 | 10884 | 1.71 | 1.76 | 9084 | 36374 | 100 |
|  | 99  | 2913 | 11806 | 1.76 | 1.79 | 9867 | 38186 | 100 |
|  | 99  | 2955 | 11525 | 1.84 | 1.77 | 9549 | 37371 | 100 |
|  | 98  | 2644 | 12036 | 1.70 | 1.86 | 9425 | 37389 | 100 |
|  | 99  | 2979 | 11232 | 1.84 | 1.83 | 9679 | 35899 | 100 |
|  | 99  | 2999 | 12431 | 1.87 | 1.94 | 9509 | 36944 | 100 |
|  | 99  | 2625 | 11946 | 1.70 | 1.87 | 9463 | 37507 | 100 |
|  | 100 | 2870 | 12311 | 1.80 | 1.88 | 9503 | 38175 | 100 |
|  | 100 | 3006 | 11675 | 1.86 | 1.83 | 9447 | 37336 | 100 |
|  | 100 | 3072 | 11300 | 1.88 | 1.78 | 9711 | 36716 | 100 |
|  | 99  | 3012 | 11497 | 1.87 | 1.79 | 9632 | 37205 | 100 |
|  | 99  | 2844 | 11447 | 1.79 | 1.78 | 9363 | 37199 | 100 |
|  | 99  | 2825 | 12121 | 1.75 | 1.88 | 9481 | 37361 | 100 |
|  | 100 | 2899 | 11397 | 1.82 | 1.79 | 9295 | 37165 | 100 |
|  | 100 | 2605 | 11997 | 1.71 | 1.82 | 9198 | 38161 | 100 |
|  | 100 | 2732 | 11099 | 1.73 | 1.78 | 9358 | 37028 | 100 |
|  | 97  | 3031 | 12271 | 1.90 | 1.85 | 9289 | 37999 | 100 |
|  | 98  | 2918 | 11863 | 1.82 | 1.86 | 9493 | 36849 | 100 |
|  | 100 | 2865 | 12299 | 1.78 | 1.87 | 9390 | 38014 | 100 |
|  | 100 | 2841 | 11984 | 1.81 | 1.86 | 9349 | 37294 | 100 |
|  | 99  | 2826 | 12303 | 1.78 | 1.89 | 9591 | 37595 | 100 |
|  | 99  | 2765 | 11360 | 1.78 | 1.83 | 9413 | 36093 | 100 |
|  | 99  | 3067 | 11411 | 1.92 | 1.73 | 9358 | 39069 | 100 |
|  | 98  | 3022 | 11388 | 1.91 | 1.83 | 9178 | 36740 | 100 |
|  | 99  | 2941 | 11530 | 1.76 | 1.81 | 9778 | 36795 | 100 |
|  | 99  | 2832 | 11363 | 1.78 | 1.80 | 9544 | 36457 | 100 |
|  | 100 | 3009 | 11506 | 1.88 | 1.80 | 9488 | 37260 | 100 |
|  | 100 | 2966 | 11320 | 1.86 | 1.80 | 9302 | 36879 | 100 |
|  | 100 | 2946 | 13104 | 1.79 | 1.93 | 9711 | 38892 | 100 |
|  | 100 | 2794 | 12392 | 1.78 | 1.91 | 9371 | 37885 | 100 |
|  | 100 | 3020 | 11714 | 1.84 | 1.81 | 9554 | 37309 | 100 |
|  | 99  | 2780 | 12035 | 1.78 | 1.84 | 9509 | 37840 | 100 |
|  | 100 | 2949 | 11613 | 1.81 | 1.79 | 9678 | 38048 | 100 |
|  | 99  | 3051 | 11610 | 1.90 | 1.81 | 9442 | 37482 | 100 |
|  | 99  | 2886 | 11677 | 1.79 | 1.83 | 9496 | 37661 | 100 |
|  | 99  | 2865 | 12633 | 1.79 | 1.91 | 9589 | 38203 | 100 |
|  | 100 | 2822 | 11894 | 1.79 | 1.85 | 9473 | 37182 | 100 |
|  | 100 | 2874 | 11294 | 1.79 | 1.80 | 9406 | 36422 | 100 |
|  | 100 | 2673 | 12643 | 1.74 | 1.92 | 9306 | 37706 | 100 |
|  | 100 | 2741 | 12026 | 1.76 | 1.88 | 9249 | 36767 | 100 |
|  | 97  | 3114 | 11330 | 1.89 | 1.78 | 9765 | 36771 | 100 |
|  | 99  | 2776 | 11873 | 1.76 | 1.85 | 9330 | 36764 | 100 |
|  | 100 | 2899 | 12361 | 1.84 | 1.89 | 9298 | 37978 | 100 |
|  | 99  | 2890 | 10652 | 1.84 | 1.71 | 9167 | 36961 | 100 |
|  | 99  | 2896 | 11841 | 1.83 | 1.82 | 9312 | 37712 | 100 |
|  | 99  | 3103 | 11764 | 1.91 | 1.82 | 9423 | 37156 | 100 |
|  | 100 | 2978 | 12272 | 1.86 | 1.87 | 9420 | 37856 | 100 |
|  | 99  | 2859 | 11519 | 1.82 | 1.76 | 9241 | 38300 | 100 |
|  | 99  | 3034 | 11666 | 1.88 | 1.79 | 9315 | 37714 | 100 |
|  | 99  | 3129 | 11380 | 1.95 | 1.81 | 9395 | 36426 | 100 |
|  | 100 | 2930 | 12188 | 1.78 | 1.88 | 9747 | 37079 | 100 |
|  | 100 | 2967 | 11928 | 1.88 | 1.84 | 9196 | 37167 | 100 |
|  | 98  | 3038 | 11822 | 1.88 | 1.83 | 9413 | 37801 | 100 |
|  | 99  | 3004 | 11959 | 1.84 | 1.86 | 9554 | 36906 | 100 |
|  | 100 | 2875 | 11617 | 1.81 | 1.78 | 9306 | 38033 | 100 |
|  | 100 | 2849 | 11500 | 1.79 | 1.86 | 9676 | 36781 | 100 |
|  | 98  | 2973 | 12671 | 1.87 | 1.93 | 9461 | 37732 | 100 |
|  | 99  | 2796 | 11150 | 1.79 | 1.79 | 9299 | 36884 | 100 |
|  | 100 | 3064 | 11545 | 1.89 | 1.78 | 9624 | 38020 | 100 |
|  | 99  | 3055 | 11141 | 1.92 | 1.79 | 9252 | 36705 | 100 |
|  | 99  | 3083 | 11187 | 1.89 | 1.76 | 9644 | 37365 | 100 |
|  | 99  | 2776 | 11775 | 1.76 | 1.86 | 9531 | 36797 | 100 |
|  | 100 | 2853 | 11898 | 1.83 | 1.85 | 9239 | 37123 | 100 |
|  | 98  | 3004 | 12599 | 1.81 | 1.88 | 9845 | 38808 | 100 |
|  | 99  | 3164 | 11910 | 1.96 | 1.86 | 9442 | 37482 | 100 |
|  | 100 | 3022 | 11380 | 1.82 | 1.77 | 9551 | 37629 | 100 |
|  | 100 | 2678 | 11995 | 1.73 | 1.86 | 9414 | 37181 | 100 |
|  | 98  | 2826 | 11396 | 1.78 | 1.80 | 9425 | 36979 | 100 |
|  | 100 | 3055 | 11421 | 1.85 | 1.79 | 9746 | 37093 | 100 |
|  | 99  | 2926 | 11789 | 1.82 | 1.83 | 9588 | 37331 | 100 |
|  | 100 | 2950 | 12086 | 1.82 | 1.87 | 9599 | 37315 | 100 |
|  | 98  | 3209 | 11803 | 1.98 | 1.83 | 9429 | 37259 | 100 |
|  | 99  | 2779 | 11702 | 1.78 | 1.82 | 9259 | 37431 | 100 |
|  | 98  | 2949 | 12105 | 1.84 | 1.87 | 9540 | 37281 | 100 |
|  | 100 | 2893 | 11836 | 1.81 | 1.85 | 9554 | 37041 | 100 |
|  | 100 | 3049 | 11440 | 1.86 | 1.77 | 9647 | 37473 | 100 |
|  | 99  | 2946 | 12366 | 1.80 | 1.91 | 9807 | 37949 | 100 |
|  | 99  | 2924 | 11352 | 1.84 | 1.80 | 9330 | 36277 | 100 |
|  | 99  | 2891 | 12399 | 1.84 | 1.89 | 9317 | 37406 | 100 |
|  | 100 | 2966 | 11800 | 1.83 | 1.86 | 9577 | 36929 | 100 |
|  | 100 | 3052 | 12774 | 1.88 | 1.95 | 9428 | 37584 | 100 |
|  | 98  | 2794 | 12128 | 1.75 | 1.86 | 9486 | 37794 | 100 |
|  | 99  | 3077 | 11652 | 1.87 | 1.80 | 9695 | 37828 | 100 |
|  | 100 | 2771 | 11710 | 1.79 | 1.84 | 9295 | 37283 | 100 |
|  | 99  | 3103 | 11966 | 1.88 | 1.88 | 9779 | 37555 | 100 |
|  | 99  | 2912 | 11401 | 1.83 | 1.79 | 9410 | 37040 | 100 |
|  | 99  | 2801 | 12040 | 1.81 | 1.83 | 9374 | 38307 | 100 |
|  | 97  | 3098 | 11665 | 1.90 | 1.85 | 9356 | 36715 | 100 |

|  |     |      |       |      |      |       |       |  |     |
|--|-----|------|-------|------|------|-------|-------|--|-----|
|  | 100 | 2884 | 11764 | 1.82 | 1.87 | 9347  | 36749 |  | 100 |
|  | 100 | 2787 | 12221 | 1.75 | 1.84 | 9562  | 38189 |  | 100 |
|  | 100 | 2969 | 12336 | 1.89 | 1.92 | 9211  | 36734 |  | 100 |
|  | 99  | 3092 | 11640 | 1.91 | 1.80 | 9470  | 37263 |  | 100 |
|  | 99  | 2993 | 11563 | 1.89 | 1.81 | 9194  | 37597 |  | 100 |
|  | 98  | 2876 | 11740 | 1.79 | 1.81 | 9402  | 37621 |  | 100 |
|  | 100 | 3075 | 12548 | 1.91 | 1.92 | 9598  | 37749 |  | 100 |
|  | 99  | 2899 | 10861 | 1.84 | 1.74 | 9333  | 36502 |  | 100 |
|  | 100 | 2924 | 11980 | 1.86 | 1.83 | 9422  | 37810 |  | 100 |
|  | 100 | 2870 | 12569 | 1.82 | 1.93 | 9279  | 37865 |  | 100 |
|  | 95  | 3097 | 11380 | 1.85 | 1.82 | 9739  | 36043 |  | 100 |
|  | 100 | 2903 | 12441 | 1.86 | 1.88 | 9164  | 38050 |  | 100 |
|  | 98  | 2950 | 10963 | 1.80 | 1.74 | 9708  | 37248 |  | 100 |
|  | 98  | 3035 | 11433 | 1.87 | 1.84 | 9508  | 36183 |  | 100 |
|  | 97  | 3062 | 12366 | 1.86 | 1.87 | 9665  | 37837 |  | 100 |
|  | 99  | 2891 | 11233 | 1.86 | 1.79 | 9299  | 36755 |  | 100 |
|  | 100 | 2778 | 12093 | 1.76 | 1.83 | 9425  | 38503 |  | 100 |
|  | 99  | 2877 | 11879 | 1.82 | 1.85 | 9307  | 37166 |  | 100 |
|  | 99  | 2899 | 13003 | 1.82 | 1.95 | 9503  | 37772 |  | 100 |
|  | 100 | 2733 | 11752 | 1.78 | 1.89 | 9392  | 36659 |  | 100 |
|  | 99  | 2982 | 11496 | 1.84 | 1.83 | 9612  | 36883 |  | 100 |
|  | 98  | 2975 | 11762 | 1.87 | 1.81 | 9378  | 38034 |  | 100 |
|  | 99  | 2902 | 11829 | 1.82 | 1.83 | 9356  | 37369 |  | 100 |
|  | 98  | 3015 | 11819 | 1.88 | 1.87 | 9400  | 36927 |  | 100 |
|  | 100 | 2631 | 11247 | 1.69 | 1.77 | 9533  | 37087 |  | 100 |
|  | 99  | 2848 | 12108 | 1.80 | 1.86 | 9333  | 37885 |  | 100 |
|  | 100 | 2892 | 12030 | 1.83 | 1.85 | 9347  | 37516 |  | 100 |
|  | 100 | 2760 | 11905 | 1.77 | 1.83 | 9539  | 37707 |  | 100 |
|  | 99  | 2856 | 12287 | 1.78 | 1.88 | 9277  | 37537 |  | 100 |
|  | 100 | 2874 | 11648 | 1.76 | 1.80 | 9716  | 37612 |  | 100 |
|  | 98  | 3079 | 11682 | 1.92 | 1.79 | 9499  | 38351 |  | 100 |
|  | 100 | 2772 | 12051 | 1.75 | 1.88 | 9372  | 37059 |  | 100 |
|  | 100 | 2793 | 12283 | 1.77 | 1.91 | 9382  | 37132 |  | 100 |
|  | 100 | 2964 | 12075 | 1.85 | 1.87 | 9351  | 37908 |  | 100 |
|  | 100 | 3060 | 11882 | 1.90 | 1.86 | 9365  | 36831 |  | 100 |
|  | 95  | 3002 | 11312 | 1.87 | 1.76 | 9281  | 37249 |  | 100 |
|  | 98  | 2861 | 12396 | 1.74 | 1.90 | 9757  | 37319 |  | 100 |
|  | 99  | 2846 | 12225 | 1.80 | 1.87 | 9301  | 37899 |  | 100 |
|  | 100 | 2961 | 11517 | 1.85 | 1.81 | 9315  | 36876 |  | 100 |
|  | 98  | 2699 | 11725 | 1.70 | 1.83 | 9409  | 37450 |  | 100 |
|  | 99  | 2881 | 11132 | 1.82 | 1.80 | 9332  | 36606 |  | 100 |
|  | 99  | 2882 | 12180 | 1.84 | 1.83 | 9284  | 38593 |  | 100 |
|  | 100 | 3191 | 12154 | 1.94 | 1.89 | 9616  | 37226 |  | 100 |
|  | 100 | 3010 | 11844 | 1.89 | 1.83 | 9332  | 37885 |  | 100 |
|  | 99  | 2945 | 12297 | 1.83 | 1.86 | 9578  | 38304 |  | 100 |
|  | 100 | 2944 | 11966 | 1.87 | 1.87 | 9227  | 37172 |  | 100 |
|  | 100 | 2818 | 11320 | 1.82 | 1.75 | 9197  | 37684 |  | 100 |
|  | 98  | 2873 | 11946 | 1.75 | 1.87 | 9755  | 36884 |  | 100 |
|  | 99  | 2837 | 11246 | 1.77 | 1.77 | 9530  | 37351 |  | 100 |
|  | 98  | 2657 | 11833 | 1.70 | 1.81 | 9513  | 38188 |  | 100 |
|  | 99  | 2948 | 11985 | 1.81 | 1.82 | 9550  | 38365 |  | 100 |
|  | 99  | 3104 | 12078 | 1.93 | 1.86 | 9491  | 37544 |  | 100 |
|  | 99  | 2850 | 11971 | 1.81 | 1.86 | 9482  | 37267 |  | 100 |
|  | 100 | 2840 | 12133 | 1.80 | 1.89 | 9331  | 37417 |  | 100 |
|  | 100 | 3024 | 11422 | 1.81 | 1.81 | 9793  | 36376 |  | 100 |
|  | 100 | 2825 | 12199 | 1.77 | 1.86 | 9549  | 38110 |  | 100 |
|  | 100 | 2879 | 12251 | 1.83 | 1.87 | 9311  | 37618 |  | 100 |
|  | 100 | 2915 | 11783 | 1.87 | 1.83 | 9209  | 37557 |  | 100 |
|  | 98  | 2883 | 12016 | 1.81 | 1.81 | 9505  | 39106 |  | 100 |
|  | 100 | 2841 | 11893 | 1.84 | 1.88 | 9363  | 36864 |  | 100 |
|  | 100 | 3007 | 11367 | 1.81 | 1.77 | 9711  | 37454 |  | 100 |
|  | 99  | 2989 | 11035 | 1.90 | 1.74 | 9370  | 37854 |  | 100 |
|  | 96  | 2910 | 11687 | 1.84 | 1.82 | 9174  | 37647 |  | 100 |
|  | 99  | 3038 | 11617 | 1.90 | 1.83 | 9497  | 38036 |  | 100 |
|  | 100 | 2686 | 12378 | 1.75 | 1.91 | 9203  | 37861 |  | 100 |
|  | 100 | 2872 | 11784 | 1.81 | 1.83 | 9226  | 37436 |  | 100 |
|  | 100 | 2772 | 11827 | 1.73 | 1.85 | 9646  | 36958 |  | 100 |
|  | 99  | 2839 | 11299 | 1.77 | 1.80 | 9647  | 36755 |  | 100 |
|  | 99  | 2769 | 11567 | 1.80 | 1.81 | 9218  | 36995 |  | 100 |
|  | 99  | 2930 | 12598 | 1.82 | 1.91 | 9455  | 37909 |  | 100 |
|  | 99  | 2874 | 11497 | 1.78 | 1.80 | 9597  | 37836 |  | 100 |
|  | 100 | 2872 | 12077 | 1.83 | 1.88 | 9474  | 37047 |  | 100 |
|  | 97  | 2928 | 11752 | 1.82 | 1.86 | 9479  | 36832 |  | 100 |
|  | 99  | 2801 | 12653 | 1.81 | 1.91 | 9378  | 38218 |  | 100 |
|  | 100 | 2982 | 12132 | 1.88 | 1.88 | 9426  | 37357 |  | 100 |
|  | 99  | 2625 | 11316 | 1.73 | 1.76 | 9237  | 37662 |  | 100 |
|  | 100 | 3100 | 11467 | 1.88 | 1.80 | 9548  | 36925 |  | 100 |
|  | 99  | 2987 | 12227 | 1.90 | 1.89 | 9325  | 36998 |  | 100 |
|  | 99  | 2986 | 11231 | 1.84 | 1.81 | 9367  | 36355 |  | 100 |
|  | 97  | 3101 | 12198 | 1.89 | 1.84 | 9546  | 38774 |  | 100 |
|  | 98  | 2775 | 11892 | 1.76 | 1.84 | 9405  | 37523 |  | 100 |
|  | 99  | 3057 | 11877 | 1.93 | 1.85 | 9379  | 37393 |  | 100 |
|  | 100 | 2941 | 11912 | 1.84 | 1.85 | 9565  | 37545 |  | 100 |
|  | 99  | 2908 | 12301 | 1.79 | 1.91 | 9559  | 36833 |  | 100 |
|  | 100 | 2870 | 11422 | 1.80 | 1.82 | 9689  | 36736 |  | 100 |
|  | 97  | 2902 | 11879 | 1.84 | 1.81 | 9333  | 37975 |  | 100 |
|  | 100 | 2710 | 11657 | 1.75 | 1.84 | 9253  | 36620 |  | 100 |
|  | 99  | 2883 | 11479 | 1.81 | 1.82 | 9373  | 36692 |  | 100 |
|  | 98  | 2776 | 11641 | 1.82 | 1.82 | 8930  | 37339 |  | 100 |
|  | 100 | 2781 | 12241 | 1.75 | 1.87 | 9413  | 37822 |  | 100 |
|  | 100 | 2958 | 11873 | 1.78 | 1.86 | 10010 | 36802 |  | 100 |
|  | 99  | 3082 | 12015 | 1.92 | 1.86 | 9381  | 37605 |  | 100 |
|  | 99  | 2884 | 11997 | 1.79 | 1.87 | 9636  | 36839 |  | 100 |
|  | 100 | 3006 | 12243 | 1.89 | 1.87 | 9299  | 37961 |  | 100 |
|  | 100 | 2861 | 12457 | 1.82 | 1.89 | 9183  | 37720 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2974 | 12780 | 1.83 | 1.94 | 9642 | 37881 | 100 |
| 100 | 2919 | 11973 | 1.85 | 1.86 | 9326 | 36666 | 100 |
| 100 | 2809 | 11828 | 1.77 | 1.83 | 9546 | 37511 | 100 |
| 100 | 3162 | 11877 | 1.94 | 1.86 | 9711 | 37066 | 100 |
| 100 | 2908 | 11981 | 1.84 | 1.85 | 9634 | 37613 | 100 |
| 100 | 2755 | 11881 | 1.77 | 1.83 | 9314 | 37784 | 100 |
| 98  | 3270 | 11364 | 1.97 | 1.75 | 9586 | 38284 | 100 |
| 97  | 3168 | 11423 | 1.92 | 1.80 | 9706 | 37225 | 100 |
| 99  | 2843 | 12047 | 1.79 | 1.86 | 9331 | 37730 | 100 |
| 98  | 2710 | 11699 | 1.75 | 1.82 | 9129 | 37462 | 100 |
| 100 | 2970 | 11903 | 1.83 | 1.82 | 9472 | 38217 | 100 |
| 99  | 2867 | 12206 | 1.79 | 1.88 | 9563 | 37221 | 100 |
| 98  | 2874 | 12124 | 1.77 | 1.88 | 9595 | 37412 | 100 |
| 97  | 2866 | 12107 | 1.82 | 1.85 | 9294 | 37582 | 100 |
| 100 | 2940 | 11288 | 1.85 | 1.77 | 9308 | 37473 | 100 |
| 97  | 2912 | 11198 | 1.84 | 1.76 | 9507 | 37128 | 100 |
| 100 | 2833 | 11862 | 1.79 | 1.82 | 9470 | 37593 | 100 |
| 100 | 2784 | 12346 | 1.80 | 1.88 | 9227 | 37934 | 100 |
| 100 | 2688 | 12311 | 1.74 | 1.88 | 9417 | 37703 | 100 |
| 100 | 2967 | 11822 | 1.86 | 1.86 | 9438 | 37337 | 100 |
| 100 | 2916 | 11767 | 1.79 | 1.82 | 9680 | 37418 | 100 |
| 100 | 2925 | 11768 | 1.84 | 1.81 | 9274 | 37759 | 100 |
| 100 | 3023 | 12001 | 1.83 | 1.86 | 9675 | 37340 | 100 |
| 99  | 2880 | 11298 | 1.80 | 1.80 | 9562 | 36328 | 100 |
| 98  | 2948 | 11264 | 1.79 | 1.79 | 9624 | 37182 | 100 |
| 98  | 2918 | 12009 | 1.84 | 1.85 | 9269 | 37655 | 100 |
| 99  | 3013 | 11726 | 1.85 | 1.82 | 9577 | 36943 | 100 |
| 99  | 3034 | 11341 | 1.83 | 1.76 | 9795 | 37627 | 100 |
| 100 | 3178 | 11375 | 1.94 | 1.80 | 9518 | 36668 | 100 |
| 98  | 2897 | 12119 | 1.85 | 1.89 | 9192 | 36946 | 100 |
| 100 | 2698 | 11543 | 1.74 | 1.82 | 9381 | 36997 | 100 |
| 100 | 2840 | 12307 | 1.84 | 1.93 | 9206 | 36824 | 100 |
| 99  | 2939 | 11498 | 1.79 | 1.83 | 9611 | 36998 | 100 |
| 97  | 2865 | 11341 | 1.81 | 1.77 | 9287 | 37563 | 100 |
| 99  | 2796 | 11456 | 1.81 | 1.80 | 9368 | 37265 | 100 |
| 100 | 3043 | 11686 | 1.89 | 1.79 | 9565 | 38656 | 100 |
| 98  | 2933 | 12016 | 1.80 | 1.90 | 9659 | 37090 | 100 |
| 100 | 2974 | 12354 | 1.88 | 1.89 | 9309 | 37385 | 100 |
| 98  | 2921 | 10454 | 1.82 | 1.67 | 9546 | 37154 | 100 |
| 98  | 2938 | 11999 | 1.82 | 1.85 | 9788 | 37312 | 100 |
| 100 | 2621 | 11460 | 1.72 | 1.79 | 9246 | 37863 | 100 |
| 100 | 2982 | 12077 | 1.84 | 1.85 | 9563 | 37892 | 100 |
| 98  | 2885 | 11481 | 1.82 | 1.81 | 9448 | 37603 | 100 |
| 100 | 3056 | 12305 | 1.88 | 1.85 | 9528 | 38242 | 100 |
| 98  | 2979 | 11748 | 1.85 | 1.84 | 9479 | 37237 | 100 |
| 100 | 2873 | 11757 | 1.83 | 1.81 | 9301 | 37780 | 100 |
| 98  | 2952 | 12354 | 1.86 | 1.88 | 9222 | 37703 | 100 |
| 100 | 2828 | 11742 | 1.83 | 1.83 | 9405 | 37624 | 100 |
| 99  | 2906 | 11857 | 1.87 | 1.86 | 9369 | 37084 | 100 |
| 99  | 2830 | 12773 | 1.80 | 1.95 | 9395 | 37787 | 100 |
| 97  | 2863 | 11940 | 1.80 | 1.85 | 9422 | 37566 | 100 |
| 100 | 2910 | 11192 | 1.83 | 1.77 | 9364 | 37609 | 100 |
| 98  | 2928 | 11730 | 1.85 | 1.84 | 9366 | 36870 | 100 |
| 99  | 3091 | 11778 | 1.86 | 1.86 | 9759 | 36988 | 100 |
| 98  | 2940 | 12343 | 1.85 | 1.89 | 9467 | 38154 | 100 |
| 99  | 2923 | 11895 | 1.78 | 1.86 | 9769 | 36857 | 100 |
| 100 | 2674 | 11027 | 1.76 | 1.72 | 9191 | 37668 | 100 |
| 99  | 3034 | 11764 | 1.85 | 1.85 | 9636 | 37411 | 100 |
| 99  | 3026 | 11331 | 1.89 | 1.81 | 9361 | 36486 | 100 |
| 100 | 3039 | 11192 | 1.84 | 1.74 | 9741 | 37896 | 100 |
| 98  | 2822 | 11645 | 1.78 | 1.86 | 9442 | 36361 | 100 |
| 100 | 2926 | 12261 | 1.87 | 1.89 | 9065 | 37707 | 100 |
| 99  | 2938 | 11210 | 1.77 | 1.77 | 9881 | 38000 | 100 |
| 99  | 3031 | 12562 | 1.93 | 1.93 | 9291 | 37464 | 100 |
| 100 | 2907 | 11340 | 1.83 | 1.77 | 9359 | 37978 | 100 |
| 100 | 3077 | 10834 | 1.92 | 1.78 | 9349 | 35759 | 100 |
| 100 | 2962 | 11950 | 1.80 | 1.84 | 9777 | 37769 | 100 |
| 100 | 3037 | 12358 | 1.90 | 1.90 | 9397 | 37204 | 100 |
| 100 | 2963 | 11886 | 1.82 | 1.82 | 9794 | 38090 | 100 |
| 100 | 2747 | 12570 | 1.73 | 1.92 | 9405 | 37885 | 100 |
| 100 | 2880 | 12307 | 1.83 | 1.90 | 9362 | 37434 | 100 |
| 100 | 2736 | 11716 | 1.76 | 1.87 | 9287 | 36304 | 100 |
| 100 | 3030 | 11942 | 1.82 | 1.82 | 9929 | 38221 | 100 |
| 100 | 2746 | 11668 | 1.82 | 1.85 | 9005 | 36902 | 100 |
| 100 | 2835 | 12307 | 1.77 | 1.87 | 9625 | 38244 | 100 |
| 100 | 2895 | 11941 | 1.80 | 1.83 | 9456 | 37772 | 100 |
| 100 | 2941 | 11916 | 1.89 | 1.85 | 9021 | 37459 | 100 |
| 100 | 2952 | 11668 | 1.83 | 1.84 | 9414 | 37025 | 100 |
| 100 | 2818 | 12315 | 1.77 | 1.86 | 9457 | 37848 | 100 |
| 100 | 2793 | 11609 | 1.84 | 1.85 | 8971 | 36047 | 100 |
| 98  | 2918 | 11943 | 1.79 | 1.86 | 9750 | 37229 | 100 |
| 100 | 2881 | 11380 | 1.81 | 1.78 | 9381 | 37498 | 100 |
| 100 | 2740 | 12659 | 1.72 | 1.92 | 9653 | 37525 | 100 |
| 100 | 2957 | 11562 | 1.79 | 1.78 | 9611 | 37926 | 100 |
| 99  | 2856 | 11913 | 1.78 | 1.81 | 9484 | 37955 | 100 |
| 99  | 2761 | 11883 | 1.75 | 1.84 | 9408 | 37443 | 100 |
| 100 | 3070 | 12324 | 1.92 | 1.90 | 9350 | 37631 | 100 |
| 100 | 2797 | 11489 | 1.71 | 1.82 | 9791 | 36615 | 100 |
| 99  | 2883 | 11525 | 1.79 | 1.79 | 9471 | 37653 | 100 |
| 100 | 2810 | 11880 | 1.83 | 1.92 | 9197 | 35722 | 100 |
| 99  | 2859 | 12545 | 1.79 | 1.89 | 9530 | 38247 | 100 |
| 100 | 2796 | 12025 | 1.79 | 1.88 | 9227 | 37425 | 100 |
| 100 | 2834 | 11827 | 1.78 | 1.84 | 9599 | 36786 | 100 |
| 100 | 2863 | 11339 | 1.79 | 1.79 | 9589 | 37595 | 100 |
| 99  | 2938 | 11997 | 1.83 | 1.94 | 9528 | 36383 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 97  | 3049 | 11542 | 1.88 | 1.81 | 9540 | 37189 |  | 100 |
|  | 99  | 2682 | 11753 | 1.76 | 1.83 | 9127 | 37004 |  | 100 |
|  | 98  | 2823 | 11778 | 1.84 | 1.81 | 9164 | 37968 |  | 100 |
|  | 100 | 2952 | 11749 | 1.85 | 1.84 | 9364 | 37157 |  | 100 |
|  | 97  | 2918 | 11550 | 1.79 | 1.79 | 9677 | 37942 |  | 100 |
|  | 100 | 3037 | 11956 | 1.87 | 1.83 | 9606 | 37672 |  | 100 |
|  | 100 | 2998 | 12363 | 1.88 | 1.88 | 9304 | 38292 |  | 100 |
|  | 100 | 2655 | 11831 | 1.72 | 1.84 | 9304 | 37147 |  | 100 |
|  | 99  | 2767 | 11828 | 1.80 | 1.84 | 9081 | 37584 |  | 100 |
|  | 100 | 2773 | 11709 | 1.77 | 1.78 | 9376 | 38637 |  | 100 |
|  | 100 | 2783 | 12350 | 1.79 | 1.93 | 9376 | 36939 |  | 100 |
|  | 100 | 2998 | 11867 | 1.86 | 1.83 | 9436 | 37609 |  | 100 |
|  | 99  | 2878 | 11707 | 1.81 | 1.79 | 9452 | 37836 |  | 100 |
|  | 100 | 3207 | 12637 | 1.93 | 1.92 | 9555 | 37778 |  | 100 |
|  | 100 | 2773 | 11647 | 1.74 | 1.79 | 9614 | 38053 |  | 100 |
|  | 100 | 2839 | 11605 | 1.84 | 1.84 | 9242 | 36657 |  | 100 |
|  | 100 | 2790 | 11979 | 1.74 | 1.84 | 9599 | 37766 |  | 100 |
|  | 100 | 2895 | 12448 | 1.84 | 1.91 | 9356 | 37504 |  | 100 |
|  | 100 | 2863 | 12224 | 1.83 | 1.89 | 9185 | 37161 |  | 100 |
|  | 100 | 2799 | 11626 | 1.77 | 1.79 | 9549 | 37727 |  | 100 |
|  | 99  | 3050 | 12586 | 1.87 | 1.90 | 9663 | 38199 |  | 100 |
|  | 98  | 3134 | 11795 | 1.95 | 1.85 | 9441 | 36998 |  | 100 |
|  | 99  | 2943 | 11340 | 1.83 | 1.79 | 9436 | 37498 |  | 100 |
|  | 99  | 2779 | 12647 | 1.77 | 1.95 | 9407 | 37211 |  | 100 |
|  | 100 | 2994 | 12349 | 1.84 | 1.85 | 9617 | 38252 |  | 100 |
|  | 100 | 2855 | 11887 | 1.83 | 1.88 | 9158 | 36751 |  | 100 |
|  | 99  | 2958 | 11976 | 1.81 | 1.84 | 9749 | 37976 |  | 100 |
|  | 100 | 2962 | 11681 | 1.87 | 1.80 | 9146 | 37832 |  | 100 |
|  | 98  | 2935 | 11755 | 1.81 | 1.83 | 9491 | 37566 |  | 100 |
|  | 100 | 2962 | 11809 | 1.82 | 1.80 | 9670 | 38546 |  | 100 |
|  | 98  | 2660 | 11189 | 1.71 | 1.78 | 9390 | 36686 |  | 100 |
|  | 100 | 2862 | 12664 | 1.80 | 1.89 | 9476 | 38780 |  | 100 |
|  | 100 | 2752 | 11168 | 1.81 | 1.79 | 9105 | 36687 |  | 100 |
|  | 100 | 2819 | 11855 | 1.76 | 1.83 | 9602 | 37394 |  | 100 |
|  | 99  | 2911 | 11687 | 1.86 | 1.88 | 9349 | 35916 |  | 100 |
|  | 99  | 2968 | 11682 | 1.79 | 1.83 | 9900 | 37029 |  | 100 |
|  | 100 | 2731 | 11545 | 1.75 | 1.84 | 9462 | 36216 |  | 100 |
|  | 99  | 2750 | 12109 | 1.77 | 1.86 | 9459 | 37162 |  | 100 |
|  | 98  | 2865 | 11459 | 1.77 | 1.77 | 9588 | 38002 |  | 100 |
|  | 100 | 3127 | 12164 | 1.89 | 1.91 | 9810 | 36679 |  | 100 |
|  | 99  | 2771 | 12213 | 1.76 | 1.90 | 9424 | 36987 |  | 100 |
|  | 98  | 2827 | 11799 | 1.79 | 1.83 | 9294 | 37604 |  | 100 |
|  | 100 | 3061 | 11712 | 1.85 | 1.81 | 9869 | 37598 |  | 100 |
|  | 100 | 2867 | 12912 | 1.83 | 1.99 | 9455 | 37242 |  | 100 |
|  | 100 | 2719 | 10781 | 1.77 | 1.75 | 9106 | 36217 |  | 100 |
|  | 100 | 2990 | 11673 | 1.81 | 1.81 | 9843 | 37559 |  | 100 |
|  | 100 | 2864 | 12346 | 1.75 | 1.87 | 9710 | 38189 |  | 100 |
|  | 99  | 2844 | 11402 | 1.79 | 1.80 | 9704 | 36923 |  | 100 |
|  | 100 | 2866 | 11427 | 1.85 | 1.81 | 9296 | 37216 |  | 100 |
|  | 100 | 3102 | 11964 | 1.90 | 1.91 | 9645 | 36480 |  | 100 |
|  | 100 | 2882 | 11375 | 1.81 | 1.79 | 9590 | 37542 |  | 100 |
|  | 100 | 2977 | 11454 | 1.86 | 1.81 | 9363 | 36866 |  | 100 |
|  | 99  | 2807 | 11670 | 1.77 | 1.84 | 9573 | 36558 |  | 100 |
|  | 100 | 2987 | 12047 | 1.86 | 1.88 | 9411 | 36982 |  | 100 |
|  | 100 | 2980 | 11720 | 1.83 | 1.85 | 9625 | 37253 |  | 100 |
|  | 98  | 3100 | 12009 | 1.88 | 1.86 | 9612 | 37665 |  | 100 |
|  | 98  | 2752 | 12100 | 1.75 | 1.84 | 9514 | 37967 |  | 100 |
|  | 100 | 2870 | 11882 | 1.82 | 1.89 | 9250 | 36608 |  | 100 |
|  | 100 | 2719 | 12005 | 1.75 | 1.85 | 9338 | 38015 |  | 100 |
|  | 99  | 3080 | 11976 | 1.89 | 1.82 | 9557 | 38301 |  | 100 |
|  | 100 | 3055 | 11304 | 1.86 | 1.83 | 9511 | 36298 |  | 100 |
|  | 99  | 2951 | 11251 | 1.88 | 1.80 | 9147 | 36959 |  | 100 |
|  | 100 | 3203 | 11471 | 1.94 | 1.81 | 9648 | 37087 |  | 100 |
|  | 100 | 2941 | 11634 | 1.86 | 1.80 | 9372 | 37711 |  | 100 |
|  | 100 | 2813 | 12330 | 1.77 | 1.84 | 9543 | 38848 |  | 100 |
|  | 100 | 2751 | 11307 | 1.78 | 1.77 | 9196 | 37702 |  | 100 |
|  | 100 | 2937 | 11449 | 1.86 | 1.78 | 9319 | 37676 |  | 100 |
|  | 100 | 2924 | 11855 | 1.86 | 1.85 | 9569 | 37165 |  | 100 |
|  | 100 | 3103 | 12040 | 1.87 | 1.81 | 9701 | 38636 |  | 100 |
|  | 100 | 2677 | 11593 | 1.71 | 1.82 | 9577 | 37681 |  | 100 |
|  | 99  | 2894 | 12174 | 1.85 | 1.84 | 9338 | 37972 |  | 100 |
|  | 98  | 2831 | 11860 | 1.75 | 1.81 | 9491 | 38079 |  | 100 |
|  | 99  | 2875 | 12265 | 1.84 | 1.92 | 9276 | 36484 |  | 100 |
|  | 97  | 2943 | 11857 | 1.87 | 1.81 | 9374 | 38003 |  | 100 |
|  | 100 | 2714 | 11202 | 1.77 | 1.78 | 9069 | 36905 |  | 100 |
|  | 100 | 2869 | 12095 | 1.79 | 1.86 | 9471 | 37509 |  | 100 |
|  | 100 | 2868 | 11823 | 1.80 | 1.83 | 9447 | 37837 |  | 100 |
|  | 99  | 2963 | 12679 | 1.82 | 1.92 | 9770 | 37478 |  | 100 |
|  | 100 | 2707 | 12141 | 1.74 | 1.89 | 9314 | 37583 |  | 100 |
|  | 100 | 2766 | 11694 | 1.78 | 1.82 | 9119 | 37818 |  | 100 |
|  | 99  | 2692 | 11154 | 1.68 | 1.71 | 9626 | 38434 |  | 100 |
|  | 99  | 2964 | 11857 | 1.87 | 1.82 | 9498 | 37716 |  | 100 |
|  | 100 | 2850 | 11861 | 1.74 | 1.85 | 9709 | 37638 |  | 100 |
|  | 99  | 2831 | 10761 | 1.83 | 1.76 | 9172 | 35830 |  | 100 |
|  | 100 | 2736 | 12123 | 1.71 | 1.85 | 9556 | 37872 |  | 100 |
|  | 100 | 2840 | 11740 | 1.84 | 1.85 | 9088 | 36919 |  | 100 |
|  | 99  | 3036 | 12578 | 1.88 | 1.87 | 9470 | 38608 |  | 100 |
|  | 99  | 2916 | 12081 | 1.85 | 1.86 | 9364 | 37864 |  | 100 |
|  | 100 | 2815 | 11923 | 1.78 | 1.81 | 9437 | 37790 |  | 100 |
|  | 100 | 2839 | 12108 | 1.81 | 1.91 | 9204 | 36593 |  | 100 |
|  | 100 | 2823 | 11708 | 1.75 | 1.80 | 9575 | 37791 |  | 100 |
|  | 100 | 2821 | 12161 | 1.81 | 1.88 | 9252 | 37476 |  | 100 |
|  | 100 | 3142 | 12006 | 1.91 | 1.81 | 9483 | 38772 |  | 100 |
|  | 100 | 2978 | 11555 | 1.88 | 1.89 | 9309 | 35972 |  | 100 |
|  | 99  | 2735 | 12076 | 1.71 | 1.85 | 9772 | 38388 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2941 | 11849 | 1.85 | 1.87 | 9283 | 36661 |  | 100 |
|  | 99  | 3181 | 11976 | 1.90 | 1.84 | 9705 | 37725 |  | 100 |
|  | 99  | 2995 | 11557 | 1.85 | 1.82 | 9583 | 37033 |  | 100 |
|  | 100 | 2891 | 12192 | 1.83 | 1.87 | 9364 | 37537 |  | 100 |
|  | 99  | 2911 | 11462 | 1.80 | 1.79 | 9619 | 37810 |  | 100 |
|  | 99  | 3040 | 11744 | 1.91 | 1.87 | 9439 | 36205 |  | 100 |
|  | 100 | 2829 | 11603 | 1.77 | 1.83 | 9427 | 37351 |  | 100 |
|  | 100 | 2866 | 11547 | 1.88 | 1.82 | 9348 | 36529 |  | 100 |
|  | 98  | 2941 | 11206 | 1.83 | 1.75 | 9490 | 37817 |  | 100 |
|  | 100 | 2841 | 11769 | 1.80 | 1.87 | 9327 | 36276 |  | 100 |
|  | 100 | 3020 | 11343 | 1.86 | 1.80 | 9618 | 36879 |  | 100 |
|  | 100 | 2978 | 11950 | 1.89 | 1.84 | 9217 | 37226 |  | 100 |
|  | 99  | 3153 | 12465 | 1.94 | 1.94 | 9661 | 37063 |  | 100 |
|  | 100 | 3081 | 10538 | 1.87 | 1.71 | 9645 | 36597 |  | 100 |
|  | 100 | 2762 | 11871 | 1.74 | 1.84 | 9623 | 37636 |  | 100 |
|  | 100 | 2729 | 11748 | 1.77 | 1.85 | 9263 | 37027 |  | 100 |
|  | 100 | 2801 | 11875 | 1.81 | 1.83 | 9214 | 37800 |  | 100 |
|  | 99  | 2764 | 11884 | 1.75 | 1.84 | 9510 | 37688 |  | 100 |
|  | 99  | 2899 | 12078 | 1.82 | 1.87 | 9371 | 37022 |  | 100 |
|  | 98  | 2815 | 11707 | 1.76 | 1.83 | 9572 | 37383 |  | 100 |
|  | 99  | 3010 | 12306 | 1.91 | 1.96 | 9151 | 36354 |  | 100 |
|  | 99  | 2929 | 11513 | 1.85 | 1.79 | 9325 | 37953 |  | 100 |
|  | 100 | 3074 | 11613 | 1.90 | 1.79 | 9386 | 38251 |  | 100 |
|  | 99  | 3017 | 11531 | 1.86 | 1.81 | 9388 | 37442 |  | 100 |
|  | 98  | 2655 | 11816 | 1.69 | 1.82 | 9542 | 37863 |  | 100 |
|  | 100 | 2948 | 12201 | 1.86 | 1.86 | 9509 | 37722 |  | 100 |
|  | 100 | 2765 | 12825 | 1.77 | 1.95 | 9343 | 37331 |  | 100 |
|  | 98  | 2912 | 11562 | 1.86 | 1.78 | 9154 | 37649 |  | 100 |
|  | 100 | 2884 | 11950 | 1.74 | 1.82 | 9824 | 37994 |  | 100 |
|  | 99  | 2953 | 11894 | 1.80 | 1.81 | 9724 | 38373 |  | 100 |
|  | 99  | 3040 | 11821 | 1.87 | 1.88 | 9566 | 36580 |  | 100 |
|  | 99  | 2976 | 12619 | 1.85 | 1.86 | 9684 | 38847 |  | 100 |
|  | 100 | 2571 | 11554 | 1.71 | 1.83 | 8953 | 36447 |  | 100 |
|  | 100 | 3099 | 11967 | 1.92 | 1.83 | 9435 | 37658 |  | 100 |
|  | 100 | 2958 | 11869 | 1.81 | 1.82 | 9535 | 38097 |  | 100 |
|  | 100 | 2888 | 11857 | 1.86 | 1.87 | 9222 | 37009 |  | 100 |
|  | 98  | 3020 | 11680 | 1.84 | 1.81 | 9679 | 37845 |  | 100 |
|  | 100 | 3075 | 11817 | 1.93 | 1.87 | 9202 | 36511 |  | 100 |
|  | 100 | 2994 | 11883 | 1.82 | 1.82 | 9693 | 38594 |  | 100 |
|  | 99  | 2999 | 11077 | 1.86 | 1.79 | 9310 | 36379 |  | 100 |
|  | 100 | 3083 | 11933 | 1.87 | 1.81 | 9749 | 38951 |  | 100 |
|  | 100 | 2982 | 12392 | 1.86 | 1.86 | 9363 | 38716 |  | 100 |
|  | 100 | 2772 | 11958 | 1.74 | 1.85 | 9519 | 37421 |  | 100 |
|  | 100 | 2735 | 11875 | 1.80 | 1.88 | 9045 | 36669 |  | 100 |
|  | 99  | 2797 | 11729 | 1.76 | 1.82 | 9548 | 38158 |  | 100 |
|  | 100 | 2892 | 11947 | 1.86 | 1.87 | 9346 | 37352 |  | 100 |
|  | 99  | 2901 | 11363 | 1.81 | 1.81 | 9427 | 36472 |  | 100 |
|  | 100 | 3011 | 12700 | 1.91 | 1.91 | 9153 | 38557 |  | 100 |
|  | 99  | 2934 | 12380 | 1.84 | 1.94 | 9344 | 37689 |  | 100 |
|  | 100 | 2960 | 11772 | 1.79 | 1.80 | 9766 | 38170 |  | 100 |
|  | 99  | 2911 | 12142 | 1.89 | 1.87 | 9274 | 37489 |  | 100 |
|  | 99  | 2648 | 11381 | 1.70 | 1.77 | 9308 | 37375 |  | 100 |
|  | 100 | 2914 | 11374 | 1.85 | 1.84 | 9372 | 36621 |  | 100 |
|  | 98  | 2983 | 11616 | 1.87 | 1.79 | 9446 | 38236 |  | 100 |
|  | 99  | 2978 | 11892 | 1.89 | 1.87 | 9317 | 36766 |  | 100 |
|  | 100 | 2684 | 11615 | 1.72 | 1.82 | 9397 | 37103 |  | 100 |
|  | 100 | 2892 | 11380 | 1.85 | 1.82 | 9154 | 36163 |  | 100 |
|  | 100 | 3116 | 11937 | 1.89 | 1.82 | 9746 | 38084 |  | 100 |
|  | 100 | 2843 | 11341 | 1.87 | 1.79 | 9099 | 36755 |  | 100 |
|  | 100 | 2856 | 12196 | 1.75 | 1.88 | 9810 | 37611 |  | 100 |
|  | 99  | 3010 | 12264 | 1.85 | 1.87 | 9663 | 37631 |  | 100 |
|  | 98  | 2718 | 11220 | 1.74 | 1.75 | 9324 | 37769 |  | 100 |
|  | 99  | 3016 | 12527 | 1.91 | 1.92 | 9205 | 37679 |  | 100 |
|  | 99  | 2958 | 11550 | 1.83 | 1.82 | 9550 | 37101 |  | 100 |
|  | 99  | 2953 | 12428 | 1.83 | 1.92 | 9386 | 37399 |  | 100 |
|  | 100 | 2815 | 11549 | 1.73 | 1.79 | 9774 | 37718 |  | 100 |
|  | 99  | 2885 | 12526 | 1.86 | 1.90 | 9192 | 38055 |  | 100 |
|  | 98  | 2952 | 11623 | 1.91 | 1.84 | 9337 | 36653 |  | 100 |
|  | 100 | 2841 | 11910 | 1.77 | 1.87 | 9514 | 37087 |  | 100 |
|  | 100 | 2985 | 11715 | 1.87 | 1.86 | 9402 | 36258 |  | 100 |
|  | 100 | 2858 | 12161 | 1.79 | 1.83 | 9675 | 38236 |  | 100 |
|  | 98  | 2799 | 11303 | 1.79 | 1.81 | 9346 | 36338 |  | 100 |
|  | 99  | 3264 | 12048 | 1.98 | 1.90 | 9481 | 36553 |  | 100 |
|  | 100 | 2905 | 11606 | 1.77 | 1.82 | 9920 | 37224 |  | 100 |
|  | 100 | 2620 | 11797 | 1.70 | 1.84 | 9333 | 37621 |  | 100 |
|  | 99  | 2945 | 11314 | 1.84 | 1.78 | 9607 | 37689 |  | 100 |
|  | 100 | 3244 | 12645 | 1.97 | 1.97 | 9663 | 36896 |  | 100 |
|  | 100 | 3108 | 12227 | 1.87 | 1.85 | 9837 | 38182 |  | 100 |
|  | 100 | 2925 | 12263 | 1.79 | 1.86 | 9739 | 37813 |  | 100 |
|  | 99  | 2834 | 11880 | 1.80 | 1.80 | 9566 | 38750 |  | 100 |
|  | 100 | 2726 | 10618 | 1.79 | 1.75 | 8826 | 35716 |  | 100 |
|  | 98  | 3145 | 12972 | 1.88 | 1.97 | 9702 | 38519 |  | 100 |
|  | 98  | 2966 | 11844 | 1.83 | 1.87 | 9514 | 37347 |  | 100 |
|  | 100 | 3011 | 11776 | 1.83 | 1.83 | 9514 | 37046 |  | 100 |
|  | 99  | 2966 | 11584 | 1.91 | 1.83 | 9387 | 36776 |  | 100 |
|  | 99  | 3083 | 12442 | 1.91 | 1.93 | 9386 | 36961 |  | 100 |
|  | 98  | 2770 | 11267 | 1.77 | 1.74 | 9338 | 38057 |  | 100 |
|  | 99  | 2881 | 11290 | 1.84 | 1.77 | 9218 | 37524 |  | 100 |
|  | 100 | 2715 | 11320 | 1.76 | 1.84 | 9202 | 35890 |  | 100 |
|  | 99  | 2901 | 11638 | 1.79 | 1.83 | 9609 | 37440 |  | 100 |
|  | 100 | 2808 | 11399 | 1.82 | 1.82 | 9186 | 36839 |  | 100 |
|  | 100 | 2963 | 11540 | 1.79 | 1.80 | 9717 | 37039 |  | 100 |
|  | 99  | 3026 | 11871 | 1.91 | 1.86 | 9258 | 36847 |  | 100 |
|  | 99  | 3020 | 12230 | 1.88 | 1.84 | 9457 | 38364 |  | 100 |
|  | 100 | 2914 | 12300 | 1.85 | 1.94 | 9229 | 36243 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 3135 | 11798 | 1.90 | 1.81 | 9511 | 37690 | 100 |
| 100 | 2836 | 11842 | 1.80 | 1.87 | 9269 | 36338 | 100 |
| 100 | 2745 | 11734 | 1.69 | 1.85 | 9721 | 36928 | 100 |
| 99  | 2818 | 11565 | 1.82 | 1.85 | 9097 | 36528 | 100 |
| 99  | 2878 | 12110 | 1.75 | 1.86 | 9668 | 37401 | 100 |
| 100 | 3125 | 11298 | 1.90 | 1.76 | 9632 | 37468 | 100 |
| 99  | 2983 | 11513 | 1.86 | 1.78 | 9379 | 37853 | 100 |
| 98  | 3068 | 12361 | 1.90 | 1.86 | 9392 | 38296 | 100 |
| 100 | 3158 | 11568 | 1.89 | 1.82 | 9713 | 37071 | 100 |
| 100 | 3134 | 12406 | 1.95 | 1.91 | 9289 | 37319 | 100 |
| 99  | 2836 | 11426 | 1.82 | 1.78 | 9069 | 37993 | 100 |
| 100 | 2669 | 11382 | 1.71 | 1.77 | 9325 | 37646 | 100 |
| 100 | 2966 | 11707 | 1.88 | 1.77 | 9319 | 38279 | 100 |
| 100 | 2889 | 12197 | 1.86 | 1.88 | 9166 | 37308 | 100 |
| 98  | 3141 | 11146 | 1.99 | 1.75 | 9277 | 37555 | 100 |
| 99  | 2876 | 11412 | 1.80 | 1.81 | 9584 | 37500 | 100 |
| 98  | 2971 | 11533 | 1.82 | 1.80 | 9701 | 37898 | 100 |
| 98  | 3040 | 11629 | 1.91 | 1.81 | 9287 | 37494 | 100 |
| 100 | 2893 | 12011 | 1.83 | 1.88 | 9433 | 37411 | 100 |
| 99  | 2783 | 11839 | 1.73 | 1.80 | 9904 | 38466 | 100 |
| 99  | 2878 | 12257 | 1.84 | 1.88 | 9383 | 37751 | 100 |
| 99  | 2834 | 12366 | 1.77 | 1.87 | 9634 | 38190 | 100 |
| 99  | 2765 | 11964 | 1.73 | 1.85 | 9658 | 37463 | 100 |
| 100 | 3016 | 12510 | 1.87 | 1.91 | 9547 | 37431 | 100 |
| 99  | 3000 | 12032 | 1.87 | 1.87 | 9450 | 37318 | 100 |
| 97  | 3011 | 12091 | 1.85 | 1.88 | 9668 | 37120 | 100 |
| 100 | 3120 | 11328 | 1.96 | 1.80 | 9381 | 36827 | 100 |
| 100 | 2772 | 11563 | 1.75 | 1.78 | 9607 | 37843 | 100 |
| 99  | 2804 | 11950 | 1.78 | 1.85 | 9640 | 37300 | 100 |
| 99  | 3019 | 10713 | 1.87 | 1.74 | 9573 | 36173 | 100 |
| 100 | 2880 | 11469 | 1.81 | 1.82 | 9578 | 37058 | 100 |
| 99  | 2818 | 11728 | 1.77 | 1.85 | 9503 | 36536 | 100 |
| 100 | 2834 | 12178 | 1.77 | 1.89 | 9710 | 37204 | 100 |
| 100 | 2968 | 12247 | 1.82 | 1.86 | 9432 | 38294 | 100 |
| 100 | 2820 | 12665 | 1.80 | 1.95 | 9257 | 37122 | 100 |
| 100 | 3024 | 11492 | 1.90 | 1.79 | 9317 | 37618 | 100 |
| 100 | 2776 | 12004 | 1.79 | 1.85 | 9259 | 37347 | 100 |
| 99  | 2963 | 11372 | 1.81 | 1.81 | 9495 | 36521 | 100 |
| 98  | 3066 | 11363 | 1.85 | 1.79 | 9674 | 36849 | 100 |
| 98  | 2972 | 12410 | 1.85 | 1.94 | 9503 | 37205 | 100 |
| 99  | 2879 | 12328 | 1.83 | 1.89 | 9333 | 37497 | 100 |
| 100 | 2827 | 12132 | 1.75 | 1.90 | 9621 | 36893 | 100 |
| 100 | 2694 | 11660 | 1.74 | 1.83 | 9162 | 36796 | 100 |
| 99  | 2844 | 11862 | 1.81 | 1.82 | 9482 | 37571 | 100 |
| 99  | 2898 | 12457 | 1.82 | 1.86 | 9613 | 38533 | 100 |
| 100 | 2794 | 13143 | 1.74 | 1.95 | 9355 | 38430 | 100 |
| 98  | 2874 | 11856 | 1.83 | 1.84 | 9506 | 37298 | 100 |
| 98  | 2899 | 11432 | 1.81 | 1.78 | 9299 | 37208 | 100 |
| 100 | 2777 | 11824 | 1.78 | 1.84 | 9366 | 37984 | 100 |
| 97  | 2948 | 11998 | 1.80 | 1.88 | 9763 | 37317 | 100 |
| 98  | 3117 | 11606 | 1.91 | 1.79 | 9621 | 38118 | 100 |
| 100 | 2791 | 11614 | 1.79 | 1.81 | 9184 | 37097 | 100 |
| 99  | 2845 | 11311 | 1.81 | 1.79 | 9315 | 36945 | 100 |
| 98  | 2959 | 11743 | 1.81 | 1.79 | 9559 | 37908 | 100 |
| 99  | 3019 | 11479 | 1.82 | 1.80 | 9694 | 37225 | 100 |
| 99  | 3084 | 11267 | 1.92 | 1.75 | 9382 | 37638 | 100 |
| 99  | 2801 | 10910 | 1.75 | 1.76 | 9500 | 36232 | 100 |
| 99  | 2957 | 11204 | 1.79 | 1.77 | 9659 | 36841 | 100 |
| 100 | 2946 | 11845 | 1.78 | 1.88 | 9767 | 36269 | 100 |
| 98  | 2826 | 11777 | 1.78 | 1.83 | 9457 | 38065 | 100 |
| 100 | 2735 | 11340 | 1.76 | 1.80 | 9315 | 37269 | 100 |
| 97  | 2840 | 10955 | 1.78 | 1.74 | 9393 | 37563 | 100 |
| 100 | 3011 | 12014 | 1.89 | 1.84 | 9389 | 38401 | 100 |
| 98  | 2934 | 11383 | 1.82 | 1.80 | 9533 | 37242 | 100 |
| 100 | 2838 | 12186 | 1.79 | 1.87 | 9448 | 37493 | 100 |
| 98  | 2938 | 12052 | 1.84 | 1.86 | 9485 | 37582 | 100 |
| 100 | 2806 | 12663 | 1.79 | 1.92 | 9294 | 37965 | 100 |
| 100 | 2968 | 12152 | 1.84 | 1.87 | 9551 | 37464 | 100 |
| 99  | 3049 | 12264 | 1.91 | 1.88 | 9330 | 37744 | 100 |
| 100 | 2799 | 12109 | 1.80 | 1.88 | 9138 | 37321 | 100 |
| 99  | 2940 | 11955 | 1.80 | 1.88 | 9669 | 36946 | 100 |
| 99  | 2792 | 12030 | 1.76 | 1.85 | 9375 | 37798 | 100 |
| 95  | 3135 | 11237 | 1.92 | 1.75 | 9465 | 37287 | 100 |
| 100 | 2894 | 11499 | 1.76 | 1.83 | 9663 | 36644 | 100 |
| 99  | 3006 | 11283 | 1.85 | 1.76 | 9529 | 37598 | 100 |
| 100 | 2959 | 12562 | 1.87 | 1.91 | 9354 | 38094 | 100 |
| 98  | 2896 | 11522 | 1.79 | 1.80 | 9644 | 37105 | 100 |
| 99  | 2727 | 11794 | 1.77 | 1.84 | 9139 | 37352 | 100 |
| 99  | 3028 | 11658 | 1.89 | 1.82 | 9436 | 37242 | 100 |
| 98  | 2924 | 12066 | 1.80 | 1.81 | 9660 | 38645 | 100 |
| 100 | 2705 | 12047 | 1.76 | 1.85 | 9257 | 37904 | 100 |
| 99  | 3108 | 12110 | 1.86 | 1.86 | 9690 | 37946 | 100 |
| 99  | 2810 | 11904 | 1.81 | 1.80 | 9235 | 38698 | 100 |
| 99  | 2854 | 12497 | 1.85 | 1.89 | 9102 | 38065 | 100 |
| 100 | 2730 | 12001 | 1.73 | 1.86 | 9299 | 37019 | 100 |
| 99  | 3130 | 11700 | 1.94 | 1.84 | 9376 | 36777 | 100 |
| 100 | 3075 | 11745 | 1.82 | 1.86 | 9887 | 36891 | 100 |
| 99  | 2971 | 11201 | 1.82 | 1.77 | 9532 | 36797 | 100 |
| 100 | 2737 | 11842 | 1.76 | 1.86 | 9366 | 36890 | 100 |
| 99  | 3021 | 11166 | 1.85 | 1.74 | 9588 | 37849 | 100 |
| 100 | 2960 | 11428 | 1.82 | 1.80 | 9428 | 37162 | 100 |
| 98  | 2819 | 10848 | 1.75 | 1.72 | 9532 | 36823 | 100 |
| 100 | 2857 | 11587 | 1.77 | 1.81 | 9639 | 37964 | 100 |
| 98  | 3182 | 12156 | 1.88 | 1.86 | 9949 | 37855 | 100 |
| 100 | 2854 | 12016 | 1.79 | 1.86 | 9643 | 37783 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 98  | 3000 | 11836 | 1.87 | 1.84 | 9419 | 37302 | 100 |
|  | 98  | 2781 | 12184 | 1.76 | 1.86 | 9487 | 38132 | 100 |
|  | 99  | 2971 | 11461 | 1.84 | 1.81 | 9616 | 37375 | 100 |
|  | 99  | 2799 | 11850 | 1.77 | 1.88 | 9397 | 36571 | 100 |
|  | 99  | 3048 | 12427 | 1.88 | 1.88 | 9565 | 38252 | 100 |
|  | 100 | 2879 | 12504 | 1.81 | 1.91 | 9303 | 37645 | 100 |
|  | 98  | 2923 | 11167 | 1.83 | 1.78 | 9316 | 36904 | 100 |
|  | 100 | 2863 | 11346 | 1.80 | 1.78 | 9381 | 37352 | 100 |
|  | 100 | 2956 | 11980 | 1.82 | 1.81 | 9612 | 38692 | 100 |
|  | 100 | 2862 | 11963 | 1.78 | 1.88 | 9721 | 38114 | 100 |
|  | 99  | 3093 | 12229 | 1.89 | 1.90 | 9722 | 37473 | 100 |
|  | 99  | 2994 | 11695 | 1.85 | 1.83 | 9440 | 37217 | 100 |
|  | 99  | 2865 | 12470 | 1.81 | 1.90 | 9393 | 37359 | 100 |
|  | 100 | 2852 | 12231 | 1.79 | 1.84 | 9466 | 38249 | 100 |
|  | 100 | 2937 | 12369 | 1.82 | 1.89 | 9570 | 38081 | 100 |
|  | 99  | 3043 | 11409 | 1.90 | 1.78 | 9326 | 37764 | 100 |
|  | 100 | 2850 | 12260 | 1.83 | 1.88 | 9303 | 37558 | 100 |
|  | 100 | 2642 | 11560 | 1.68 | 1.80 | 9499 | 37483 | 100 |
|  | 100 | 2819 | 12511 | 1.84 | 1.92 | 9308 | 37367 | 100 |
|  | 100 | 2999 | 12565 | 1.90 | 1.88 | 9214 | 38391 | 100 |
|  | 99  | 3006 | 11938 | 1.85 | 1.85 | 9331 | 37346 | 100 |
|  | 98  | 2955 | 11368 | 1.87 | 1.78 | 9316 | 37593 | 100 |
|  | 99  | 2977 | 11074 | 1.87 | 1.76 | 9360 | 37121 | 100 |
|  | 100 | 2996 | 11668 | 1.82 | 1.85 | 9534 | 36162 | 100 |
|  | 100 | 2942 | 11450 | 1.84 | 1.81 | 9392 | 36901 | 100 |
|  | 100 | 2858 | 11540 | 1.82 | 1.80 | 9185 | 37777 | 100 |
|  | 97  | 3382 | 11337 | 2.02 | 1.80 | 9634 | 36208 | 100 |
|  | 100 | 2931 | 12897 | 1.83 | 1.95 | 9568 | 37505 | 100 |
|  | 99  | 2950 | 12579 | 1.86 | 1.90 | 9332 | 38157 | 100 |
|  | 99  | 2869 | 12751 | 1.83 | 1.91 | 9162 | 38104 | 100 |
|  | 99  | 2880 | 11585 | 1.82 | 1.85 | 9235 | 36595 | 100 |
|  | 99  | 2921 | 12084 | 1.88 | 1.85 | 9428 | 37391 | 100 |
|  | 100 | 2738 | 11931 | 1.77 | 1.85 | 9137 | 37332 | 100 |
|  | 100 | 2709 | 11758 | 1.77 | 1.81 | 9089 | 37769 | 100 |
|  | 99  | 2629 | 11338 | 1.69 | 1.79 | 9436 | 37655 | 100 |
|  | 100 | 2924 | 11818 | 1.86 | 1.83 | 9447 | 37977 | 100 |
|  | 98  | 2762 | 11379 | 1.73 | 1.79 | 9469 | 37868 | 100 |
|  | 100 | 3029 | 12308 | 1.86 | 1.88 | 9534 | 38104 | 100 |
|  | 99  | 2880 | 12126 | 1.81 | 1.87 | 9502 | 37524 | 100 |
|  | 99  | 3096 | 12847 | 1.92 | 1.91 | 9363 | 38492 | 100 |
|  | 99  | 2780 | 11786 | 1.76 | 1.80 | 9246 | 38147 | 100 |
|  | 99  | 2913 | 11692 | 1.83 | 1.89 | 9477 | 36821 | 100 |
|  | 97  | 3048 | 12139 | 1.85 | 1.88 | 9736 | 37860 | 100 |
|  | 99  | 2971 | 12096 | 1.79 | 1.88 | 9732 | 36702 | 100 |
|  | 99  | 2999 | 11629 | 1.90 | 1.82 | 9269 | 37134 | 100 |
|  | 99  | 3118 | 11509 | 1.92 | 1.81 | 9439 | 36847 | 100 |
|  | 100 | 2928 | 11521 | 1.84 | 1.84 | 9405 | 36678 | 100 |
|  | 99  | 2832 | 12153 | 1.81 | 1.88 | 9327 | 37654 | 100 |
|  | 98  | 2979 | 11477 | 1.85 | 1.77 | 9516 | 38218 | 100 |
|  | 100 | 2901 | 12025 | 1.82 | 1.89 | 9492 | 36587 | 100 |
|  | 99  | 2731 | 11949 | 1.74 | 1.85 | 9397 | 37573 | 100 |
|  | 100 | 2799 | 11888 | 1.74 | 1.85 | 9578 | 37150 | 100 |
|  | 99  | 2823 | 12478 | 1.79 | 1.90 | 9390 | 37522 | 100 |
|  | 99  | 2931 | 12245 | 1.83 | 1.86 | 9451 | 38635 | 100 |
|  | 99  | 3077 | 12683 | 1.92 | 1.91 | 9375 | 38443 | 100 |
|  | 100 | 2882 | 12874 | 1.80 | 1.94 | 9366 | 37973 | 100 |
|  | 98  | 2866 | 11536 | 1.78 | 1.81 | 9499 | 36827 | 100 |
|  | 98  | 2984 | 11759 | 1.83 | 1.83 | 9543 | 36772 | 100 |
|  | 100 | 2984 | 11064 | 1.84 | 1.76 | 9453 | 36809 | 100 |
|  | 98  | 3050 | 11712 | 1.85 | 1.84 | 9558 | 36585 | 100 |
|  | 99  | 2983 | 11296 | 1.83 | 1.81 | 9466 | 36119 | 100 |
|  | 98  | 3000 | 11084 | 1.85 | 1.81 | 9606 | 36229 | 100 |
|  | 99  | 3253 | 11449 | 2.01 | 1.81 | 9438 | 37090 | 100 |
|  | 97  | 2826 | 11214 | 1.76 | 1.77 | 9516 | 37382 | 100 |
|  | 100 | 2633 | 11143 | 1.71 | 1.75 | 9353 | 37334 | 100 |
|  | 100 | 2952 | 11745 | 1.85 | 1.81 | 9576 | 37799 | 100 |
|  | 100 | 2799 | 11884 | 1.80 | 1.78 | 9321 | 38840 | 100 |
|  | 100 | 2775 | 11732 | 1.76 | 1.84 | 9468 | 37687 | 100 |
|  | 99  | 2951 | 12152 | 1.83 | 1.87 | 9626 | 37912 | 100 |
|  | 100 | 2949 | 12595 | 1.82 | 1.92 | 9486 | 38176 | 100 |
|  | 100 | 2982 | 12409 | 1.87 | 1.92 | 9370 | 37341 | 100 |
|  | 100 | 3131 | 11717 | 1.92 | 1.81 | 9358 | 37588 | 100 |
|  | 99  | 3078 | 11910 | 1.87 | 1.84 | 9644 | 37448 | 100 |
|  | 100 | 2847 | 11967 | 1.81 | 1.81 | 9258 | 38378 | 100 |
|  | 98  | 2963 | 11821 | 1.85 | 1.80 | 9364 | 38332 | 100 |
|  | 99  | 2810 | 12231 | 1.77 | 1.90 | 9496 | 37344 | 100 |
|  | 100 | 3074 | 11643 | 1.87 | 1.82 | 9534 | 37787 | 100 |
|  | 99  | 2703 | 11286 | 1.73 | 1.77 | 9471 | 37493 | 100 |
|  | 100 | 2810 | 12454 | 1.84 | 1.90 | 9289 | 37368 | 100 |
|  | 100 | 2980 | 12104 | 1.89 | 1.81 | 9450 | 39167 | 100 |
|  | 100 | 2799 | 12644 | 1.79 | 1.93 | 9497 | 37912 | 100 |
|  | 100 | 2844 | 12850 | 1.84 | 1.93 | 9349 | 38105 | 100 |
|  | 98  | 2874 | 12945 | 1.82 | 1.96 | 9367 | 37961 | 100 |
|  | 99  | 3050 | 11680 | 1.90 | 1.83 | 9338 | 37871 | 100 |
|  | 100 | 2763 | 12280 | 1.79 | 1.87 | 9451 | 37853 | 100 |
|  | 100 | 2893 | 11630 | 1.80 | 1.78 | 9439 | 38165 | 100 |
|  | 97  | 2935 | 11907 | 1.84 | 1.83 | 9445 | 37741 | 100 |
|  | 100 | 2887 | 11669 | 1.88 | 1.82 | 9242 | 37585 | 100 |
|  | 100 | 2883 | 11709 | 1.82 | 1.79 | 9354 | 37662 | 100 |
|  | 99  | 2807 | 11559 | 1.76 | 1.76 | 9476 | 38228 | 100 |
|  | 99  | 2962 | 11676 | 1.84 | 1.83 | 9494 | 37398 | 100 |
|  | 100 | 2960 | 12322 | 1.81 | 1.89 | 9674 | 37747 | 100 |
|  | 98  | 2952 | 12342 | 1.84 | 1.85 | 9502 | 38642 | 100 |
|  | 100 | 2963 | 12418 | 1.85 | 1.90 | 9306 | 37470 | 100 |
|  | 100 | 2846 | 11750 | 1.81 | 1.83 | 9310 | 37275 | 100 |



|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2802 | 12283 | 1.80 | 1.85 | 9178 | 38302 |  | 100 |
|  | 100 | 2771 | 12058 | 1.76 | 1.88 | 9326 | 36493 |  | 100 |
|  | 99  | 2843 | 11754 | 1.83 | 1.83 | 9256 | 37240 |  | 100 |
|  | 100 | 2911 | 11754 | 1.86 | 1.83 | 9236 | 37379 |  | 100 |
|  | 100 | 2783 | 12318 | 1.79 | 1.88 | 9246 | 37494 |  | 100 |
|  | 100 | 2930 | 11473 | 1.84 | 1.76 | 9364 | 38136 |  | 100 |
|  | 99  | 2767 | 11131 | 1.75 | 1.79 | 9478 | 37050 |  | 100 |
|  | 99  | 2837 | 11692 | 1.80 | 1.84 | 9468 | 37088 |  | 100 |
|  | 98  | 2989 | 11754 | 1.84 | 1.83 | 9627 | 37077 |  | 100 |
|  | 100 | 2910 | 12539 | 1.84 | 1.90 | 9535 | 37860 |  | 100 |
|  | 98  | 3107 | 12128 | 1.92 | 1.84 | 9339 | 37782 |  | 100 |
|  | 97  | 2874 | 11360 | 1.81 | 1.78 | 9530 | 37231 |  | 100 |
|  | 100 | 2924 | 11406 | 1.82 | 1.78 | 9631 | 37660 |  | 100 |
|  | 100 | 2868 | 12052 | 1.80 | 1.88 | 9547 | 37075 |  | 100 |
|  | 98  | 2961 | 12588 | 1.86 | 1.90 | 9358 | 38180 |  | 100 |
|  | 100 | 2999 | 12147 | 1.92 | 1.89 | 9326 | 37251 |  | 100 |
|  | 100 | 2906 | 11955 | 1.79 | 1.83 | 9680 | 37975 |  | 100 |
|  | 100 | 2948 | 11334 | 1.84 | 1.79 | 9388 | 36970 |  | 100 |
|  | 99  | 2950 | 12033 | 1.81 | 1.86 | 9723 | 37449 |  | 100 |
|  | 100 | 2729 | 11336 | 1.73 | 1.83 | 9597 | 36399 |  | 100 |
|  | 100 | 3038 | 12059 | 1.91 | 1.83 | 9319 | 39094 |  | 100 |
|  | 100 | 3077 | 12020 | 1.95 | 1.88 | 9476 | 37429 |  | 100 |
|  | 99  | 2890 | 11178 | 1.79 | 1.78 | 9565 | 36776 |  | 100 |
|  | 100 | 2768 | 11519 | 1.74 | 1.79 | 9559 | 37378 |  | 100 |
|  | 100 | 2724 | 12046 | 1.79 | 1.85 | 9140 | 37418 |  | 100 |
|  | 99  | 2871 | 12190 | 1.81 | 1.89 | 9352 | 37842 |  | 100 |
|  | 100 | 2927 | 11835 | 1.87 | 1.86 | 9039 | 37173 |  | 100 |
|  | 100 | 2962 | 11172 | 1.84 | 1.76 | 9507 | 37306 |  | 100 |
|  | 99  | 2803 | 11164 | 1.77 | 1.77 | 9427 | 37053 |  | 100 |
|  | 100 | 2589 | 12084 | 1.68 | 1.88 | 9387 | 37645 |  | 100 |
|  | 100 | 2869 | 12704 | 1.82 | 1.91 | 9481 | 38283 |  | 100 |
|  | 98  | 3096 | 12577 | 1.90 | 1.91 | 9542 | 37747 |  | 100 |
|  | 100 | 3070 | 12511 | 1.89 | 1.90 | 9530 | 38245 |  | 100 |
|  | 100 | 2720 | 12653 | 1.73 | 1.92 | 9408 | 37773 |  | 100 |
|  | 100 | 2890 | 12092 | 1.86 | 1.85 | 9151 | 37762 |  | 100 |
|  | 99  | 2882 | 11140 | 1.80 | 1.74 | 9430 | 37810 |  | 100 |
|  | 100 | 3043 | 11719 | 1.88 | 1.84 | 9560 | 37316 |  | 100 |
|  | 99  | 2822 | 11323 | 1.77 | 1.78 | 9568 | 37667 |  | 100 |
|  | 99  | 2997 | 11150 | 1.83 | 1.76 | 9587 | 37159 |  | 100 |
|  | 100 | 2901 | 11326 | 1.82 | 1.79 | 9511 | 37216 |  | 100 |
|  | 99  | 2821 | 11721 | 1.79 | 1.82 | 9347 | 37845 |  | 100 |
|  | 99  | 3039 | 11955 | 1.88 | 1.87 | 9512 | 37208 |  | 100 |
|  | 99  | 2925 | 11694 | 1.85 | 1.87 | 9371 | 36429 |  | 100 |
|  | 99  | 2981 | 11775 | 1.84 | 1.84 | 9554 | 36564 |  | 100 |
|  | 98  | 2763 | 11295 | 1.75 | 1.80 | 9393 | 36637 |  | 100 |
|  | 99  | 2942 | 12306 | 1.88 | 1.86 | 9357 | 38365 |  | 100 |
|  | 98  | 2829 | 11673 | 1.79 | 1.79 | 9319 | 38239 |  | 100 |
|  | 100 | 2972 | 11219 | 1.87 | 1.75 | 9334 | 38168 |  | 100 |
|  | 99  | 2807 | 12414 | 1.77 | 1.92 | 9672 | 36924 |  | 100 |
|  | 100 | 2904 | 11898 | 1.87 | 1.84 | 9200 | 37475 |  | 100 |
|  | 97  | 3047 | 11933 | 1.89 | 1.82 | 9706 | 37972 |  | 100 |
|  | 100 | 2748 | 11951 | 1.78 | 1.86 | 9230 | 37546 |  | 100 |
|  | 100 | 2851 | 12380 | 1.83 | 1.90 | 9376 | 37535 |  | 100 |
|  | 100 | 2802 | 12086 | 1.78 | 1.83 | 9410 | 38327 |  | 100 |
|  | 100 | 2991 | 12419 | 1.85 | 1.89 | 9514 | 38148 |  | 100 |
|  | 98  | 2899 | 11440 | 1.87 | 1.79 | 9046 | 37209 |  | 100 |
|  | 100 | 2899 | 11030 | 1.81 | 1.76 | 9583 | 37229 |  | 100 |
|  | 99  | 2973 | 11225 | 1.85 | 1.81 | 9374 | 36278 |  | 100 |
|  | 100 | 2756 | 11904 | 1.79 | 1.83 | 9176 | 37441 |  | 100 |
|  | 100 | 2929 | 11948 | 1.88 | 1.85 | 9194 | 37738 |  | 100 |
|  | 100 | 2846 | 12349 | 1.84 | 1.90 | 9182 | 37598 |  | 100 |
|  | 98  | 2768 | 11566 | 1.76 | 1.81 | 9443 | 37338 |  | 100 |
|  | 100 | 3110 | 12135 | 1.90 | 1.87 | 9547 | 37311 |  | 100 |
|  | 99  | 2753 | 11464 | 1.77 | 1.76 | 9456 | 38000 |  | 100 |
|  | 100 | 2730 | 11448 | 1.75 | 1.77 | 9355 | 38205 |  | 100 |
|  | 100 | 2894 | 10839 | 1.85 | 1.77 | 9128 | 36265 |  | 100 |
|  | 100 | 2829 | 12445 | 1.79 | 1.91 | 9472 | 37685 |  | 100 |
|  | 98  | 2844 | 10931 | 1.80 | 1.72 | 9400 | 38037 |  | 100 |
|  | 98  | 2834 | 12061 | 1.82 | 1.85 | 9110 | 38237 |  | 100 |
|  | 99  | 3079 | 11722 | 1.87 | 1.83 | 9625 | 38056 |  | 100 |
|  | 100 | 2876 | 10764 | 1.82 | 1.74 | 9275 | 36701 |  | 100 |
|  | 99  | 3180 | 11674 | 1.91 | 1.86 | 9669 | 36511 |  | 100 |
|  | 100 | 2808 | 11229 | 1.79 | 1.73 | 9452 | 38163 |  | 100 |
|  | 99  | 2917 | 11987 | 1.80 | 1.84 | 9503 | 38021 |  | 100 |
|  | 100 | 2887 | 12383 | 1.82 | 1.91 | 9387 | 37390 |  | 100 |
|  | 100 | 2783 | 11210 | 1.82 | 1.79 | 9192 | 36942 |  | 100 |
|  | 99  | 2939 | 11562 | 1.81 | 1.81 | 9563 | 37467 |  | 100 |
|  | 98  | 3118 | 11671 | 1.94 | 1.81 | 9500 | 37318 |  | 100 |
|  | 100 | 2956 | 11539 | 1.84 | 1.80 | 9404 | 37865 |  | 100 |
|  | 99  | 2881 | 11296 | 1.77 | 1.77 | 9692 | 37347 |  | 100 |
|  | 99  | 3110 | 11477 | 1.94 | 1.80 | 9413 | 37156 |  | 100 |
|  | 99  | 2990 | 11784 | 1.88 | 1.85 | 9484 | 37159 |  | 100 |
|  | 98  | 3098 | 11639 | 1.92 | 1.83 | 9383 | 37210 |  | 100 |
|  | 100 | 2937 | 11755 | 1.82 | 1.84 | 9527 | 37409 |  | 100 |
|  | 100 | 2894 | 11794 | 1.85 | 1.90 | 9317 | 36267 |  | 100 |
|  | 99  | 2987 | 11694 | 1.88 | 1.82 | 9443 | 37351 |  | 100 |
|  | 100 | 3155 | 11295 | 1.93 | 1.78 | 9630 | 37128 |  | 100 |
|  | 100 | 2808 | 12046 | 1.81 | 1.87 | 9302 | 37155 |  | 100 |
|  | 97  | 2941 | 11684 | 1.84 | 1.84 | 9419 | 36739 |  | 100 |
|  | 100 | 2719 | 12402 | 1.71 | 1.86 | 9566 | 38356 |  | 100 |
|  | 100 | 2828 | 11553 | 1.80 | 1.82 | 9372 | 36550 |  | 100 |
|  | 100 | 3111 | 11556 | 1.90 | 1.85 | 9689 | 36456 |  | 100 |
|  | 100 | 3064 | 11079 | 1.89 | 1.76 | 9541 | 37448 |  | 100 |
|  | 100 | 2819 | 11885 | 1.85 | 1.81 | 9072 | 38100 |  | 100 |
|  | 99  | 3059 | 11947 | 1.93 | 1.84 | 9373 | 37723 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2811 | 12116 | 1.80 | 1.85 | 9451 | 37813 |  | 100 |
|  | 100 | 2749 | 11825 | 1.79 | 1.90 | 9398 | 36090 |  | 100 |
|  | 99  | 2886 | 12299 | 1.83 | 1.90 | 9266 | 37967 |  | 100 |
|  | 100 | 3032 | 11838 | 1.90 | 1.81 | 9434 | 37831 |  | 100 |
|  | 100 | 2958 | 11836 | 1.88 | 1.80 | 9408 | 38205 |  | 100 |
|  | 100 | 2799 | 11569 | 1.76 | 1.81 | 9571 | 36798 |  | 100 |
|  | 100 | 2950 | 12087 | 1.86 | 1.86 | 9317 | 37589 |  | 100 |
|  | 100 | 3115 | 12330 | 1.94 | 1.88 | 9496 | 37785 |  | 100 |
|  | 99  | 2780 | 11069 | 1.80 | 1.74 | 9265 | 37376 |  | 100 |
|  | 99  | 2873 | 12340 | 1.84 | 1.86 | 9283 | 37715 |  | 100 |
|  | 100 | 2896 | 13026 | 1.89 | 2.02 | 9270 | 36775 |  | 100 |
|  | 100 | 2848 | 11590 | 1.84 | 1.80 | 9169 | 37599 |  | 100 |
|  | 99  | 2877 | 11287 | 1.82 | 1.78 | 9299 | 37675 |  | 100 |
|  | 98  | 2897 | 11948 | 1.79 | 1.84 | 9592 | 37718 |  | 100 |
|  | 97  | 2879 | 12517 | 1.88 | 1.89 | 9134 | 37867 |  | 100 |
|  | 100 | 2774 | 12243 | 1.78 | 1.87 | 9191 | 37825 |  | 100 |
|  | 98  | 3011 | 11571 | 1.83 | 1.78 | 9614 | 37845 |  | 100 |
|  | 100 | 3019 | 11542 | 1.85 | 1.81 | 9601 | 37154 |  | 100 |
|  | 100 | 2947 | 11875 | 1.86 | 1.85 | 9473 | 37348 |  | 100 |
|  | 99  | 2991 | 12024 | 1.82 | 1.85 | 9554 | 37757 |  | 100 |
|  | 99  | 2979 | 11868 | 1.83 | 1.87 | 9604 | 36777 |  | 100 |
|  | 99  | 2879 | 11606 | 1.85 | 1.79 | 9270 | 37815 |  | 100 |
|  | 99  | 2941 | 11467 | 1.84 | 1.80 | 9551 | 37463 |  | 100 |
|  | 100 | 2863 | 11525 | 1.85 | 1.84 | 9236 | 36544 |  | 100 |
|  | 98  | 3076 | 11952 | 1.87 | 1.85 | 9703 | 38231 |  | 100 |
|  | 99  | 2856 | 11153 | 1.83 | 1.77 | 9071 | 36853 |  | 100 |
|  | 100 | 3134 | 12460 | 1.94 | 1.88 | 9434 | 37968 |  | 100 |
|  | 99  | 2930 | 11813 | 1.83 | 1.83 | 9496 | 37515 |  | 100 |
|  | 99  | 3033 | 12061 | 1.88 | 1.89 | 9405 | 37030 |  | 100 |
|  | 99  | 2934 | 11269 | 1.88 | 1.83 | 9343 | 36629 |  | 100 |
|  | 100 | 2841 | 11886 | 1.75 | 1.84 | 9698 | 37379 |  | 100 |
|  | 100 | 2796 | 12176 | 1.77 | 1.84 | 9703 | 38058 |  | 100 |
|  | 100 | 2816 | 11449 | 1.76 | 1.80 | 9511 | 37138 |  | 100 |
|  | 100 | 3013 | 12442 | 1.89 | 1.89 | 9358 | 37886 |  | 100 |
|  | 99  | 2788 | 12024 | 1.84 | 1.84 | 9126 | 37854 |  | 100 |
|  | 100 | 2772 | 11766 | 1.82 | 1.85 | 9040 | 37445 |  | 100 |
|  | 100 | 3020 | 11626 | 1.82 | 1.75 | 9771 | 38575 |  | 100 |
|  | 100 | 3004 | 11689 | 1.86 | 1.79 | 9593 | 38205 |  | 100 |
|  | 99  | 2911 | 12292 | 1.86 | 1.87 | 9172 | 38444 |  | 100 |
|  | 100 | 3107 | 12111 | 1.91 | 1.85 | 9409 | 38130 |  | 100 |
|  | 100 | 2877 | 12412 | 1.81 | 1.88 | 9580 | 38381 |  | 100 |
|  | 100 | 2830 | 12036 | 1.80 | 1.84 | 9311 | 37764 |  | 100 |
|  | 98  | 2974 | 11656 | 1.89 | 1.82 | 9244 | 37538 |  | 100 |
|  | 100 | 2952 | 11408 | 1.87 | 1.81 | 9255 | 36682 |  | 100 |
|  | 100 | 2980 | 12172 | 1.87 | 1.84 | 9342 | 38052 |  | 100 |
|  | 100 | 2770 | 11136 | 1.77 | 1.76 | 9440 | 37278 |  | 100 |
|  | 100 | 2934 | 11654 | 1.82 | 1.85 | 9394 | 36408 |  | 100 |
|  | 100 | 2686 | 11414 | 1.73 | 1.76 | 9516 | 37785 |  | 100 |
|  | 100 | 2835 | 12630 | 1.81 | 1.88 | 9319 | 38524 |  | 100 |
|  | 100 | 2776 | 11634 | 1.72 | 1.78 | 9559 | 38135 |  | 100 |
|  | 99  | 2931 | 12121 | 1.82 | 1.86 | 9558 | 37702 |  | 100 |
|  | 100 | 2893 | 12150 | 1.82 | 1.84 | 9598 | 37733 |  | 100 |
|  | 100 | 2839 | 11694 | 1.75 | 1.83 | 9659 | 36870 |  | 100 |
|  | 98  | 2812 | 11289 | 1.77 | 1.79 | 9475 | 37245 |  | 100 |
|  | 100 | 2882 | 12185 | 1.78 | 1.87 | 9740 | 37861 |  | 100 |
|  | 99  | 2819 | 12152 | 1.76 | 1.92 | 9445 | 36488 |  | 100 |
|  | 98  | 2793 | 11675 | 1.84 | 1.82 | 8889 | 37441 |  | 100 |
|  | 100 | 3107 | 11643 | 1.90 | 1.80 | 9480 | 37790 |  | 100 |
|  | 100 | 2695 | 11540 | 1.75 | 1.81 | 9396 | 36875 |  | 100 |
|  | 100 | 3060 | 11106 | 1.87 | 1.76 | 9590 | 37591 |  | 100 |
|  | 99  | 2859 | 11103 | 1.81 | 1.74 | 9434 | 37403 |  | 100 |
|  | 99  | 2845 | 12240 | 1.79 | 1.89 | 9421 | 37543 |  | 100 |
|  | 100 | 2858 | 12306 | 1.80 | 1.86 | 9238 | 38166 |  | 100 |
|  | 100 | 2798 | 11368 | 1.80 | 1.79 | 9266 | 36900 |  | 100 |
|  | 100 | 2729 | 12443 | 1.79 | 1.92 | 9040 | 37450 |  | 100 |
|  | 100 | 3060 | 12441 | 1.87 | 1.89 | 9570 | 38539 |  | 100 |
|  | 100 | 3004 | 11425 | 1.84 | 1.77 | 9498 | 37617 |  | 100 |
|  | 100 | 2914 | 12032 | 1.83 | 1.89 | 9398 | 36751 |  | 100 |
|  | 99  | 2959 | 11833 | 1.83 | 1.79 | 9396 | 38574 |  | 100 |
|  | 99  | 2979 | 11625 | 1.83 | 1.83 | 9674 | 36880 |  | 100 |
|  | 100 | 3037 | 12309 | 1.87 | 1.88 | 9624 | 37826 |  | 100 |
|  | 99  | 2960 | 12245 | 1.84 | 1.86 | 9588 | 38229 |  | 100 |
|  | 100 | 2735 | 11622 | 1.73 | 1.82 | 9568 | 37441 |  | 100 |
|  | 100 | 3000 | 11804 | 1.85 | 1.81 | 9456 | 37744 |  | 100 |
|  | 100 | 3074 | 11103 | 1.90 | 1.79 | 9469 | 36163 |  | 100 |
|  | 99  | 3112 | 11198 | 1.96 | 1.81 | 9460 | 36349 |  | 100 |
|  | 100 | 3030 | 12426 | 1.86 | 1.89 | 9648 | 38015 |  | 100 |
|  | 99  | 2979 | 11884 | 1.86 | 1.85 | 9379 | 37467 |  | 100 |
|  | 100 | 3106 | 11911 | 1.88 | 1.86 | 9648 | 36748 |  | 100 |
|  | 100 | 2839 | 11676 | 1.82 | 1.83 | 9205 | 37206 |  | 100 |
|  | 99  | 3026 | 11450 | 1.87 | 1.77 | 9431 | 38035 |  | 100 |
|  | 100 | 2845 | 11436 | 1.82 | 1.79 | 9136 | 37374 |  | 100 |
|  | 100 | 3107 | 12242 | 1.94 | 1.89 | 9321 | 37235 |  | 100 |
|  | 100 | 2894 | 12216 | 1.81 | 1.85 | 9362 | 37751 |  | 100 |
|  | 100 | 2760 | 11217 | 1.76 | 1.78 | 9312 | 36646 |  | 100 |
|  | 100 | 2865 | 12145 | 1.78 | 1.87 | 9705 | 38423 |  | 100 |
|  | 100 | 2927 | 12265 | 1.85 | 1.86 | 9325 | 37979 |  | 100 |
|  | 100 | 3026 | 11806 | 1.88 | 1.83 | 9531 | 37740 |  | 100 |
|  | 99  | 2856 | 11849 | 1.83 | 1.79 | 9171 | 38335 |  | 100 |
|  | 97  | 2840 | 11501 | 1.81 | 1.80 | 9374 | 37486 |  | 100 |
|  | 100 | 2911 | 12298 | 1.85 | 1.86 | 9431 | 37864 |  | 100 |
|  | 100 | 2904 | 11714 | 1.82 | 1.81 | 9418 | 37799 |  | 100 |
|  | 100 | 2889 | 12087 | 1.81 | 1.87 | 9332 | 37639 |  | 100 |
|  | 100 | 2781 | 12235 | 1.78 | 1.90 | 9284 | 37267 |  | 100 |
|  | 100 | 2906 | 11855 | 1.84 | 1.85 | 9336 | 37180 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2769 | 12012 | 1.76 | 1.84 | 9416 | 38002 |  | 100 |
|  | 100 | 2917 | 12493 | 1.83 | 1.91 | 9513 | 37328 |  | 100 |
|  | 100 | 3045 | 12371 | 1.86 | 1.88 | 9565 | 37713 |  | 100 |
|  | 100 | 2976 | 11750 | 1.83 | 1.83 | 9594 | 37289 |  | 100 |
|  | 98  | 2938 | 11960 | 1.86 | 1.84 | 9368 | 38127 |  | 100 |
|  | 100 | 2953 | 11597 | 1.85 | 1.83 | 9491 | 36720 |  | 100 |
|  | 100 | 3065 | 12147 | 1.90 | 1.86 | 9435 | 37935 |  | 100 |
|  | 100 | 2912 | 11352 | 1.83 | 1.78 | 9455 | 37598 |  | 100 |
|  | 99  | 3091 | 11869 | 1.86 | 1.83 | 9808 | 37835 |  | 100 |
|  | 100 | 2850 | 11766 | 1.82 | 1.87 | 9509 | 36508 |  | 100 |
|  | 98  | 2823 | 11463 | 1.77 | 1.81 | 9489 | 36939 |  | 100 |
|  | 99  | 3160 | 12712 | 1.93 | 1.95 | 9365 | 37482 |  | 100 |
|  | 99  | 2889 | 12057 | 1.78 | 1.87 | 9750 | 37428 |  | 100 |
|  | 100 | 2911 | 12000 | 1.84 | 1.88 | 9334 | 37517 |  | 100 |
|  | 99  | 3315 | 12184 | 2.01 | 1.82 | 9536 | 38626 |  | 100 |
|  | 98  | 2974 | 11570 | 1.85 | 1.79 | 9304 | 37799 |  | 100 |
|  | 99  | 2832 | 12098 | 1.75 | 1.90 | 9499 | 37071 |  | 100 |
|  | 99  | 2899 | 11577 | 1.83 | 1.82 | 9360 | 36921 |  | 100 |
|  | 100 | 2986 | 11601 | 1.89 | 1.82 | 9496 | 37052 |  | 100 |
|  | 99  | 3051 | 11639 | 1.91 | 1.80 | 9365 | 37803 |  | 100 |
|  | 99  | 3142 | 12045 | 1.88 | 1.84 | 9760 | 37841 |  | 100 |
|  | 98  | 2862 | 11598 | 1.81 | 1.84 | 9386 | 36757 |  | 100 |
|  | 100 | 2953 | 11661 | 1.82 | 1.82 | 9467 | 37668 |  | 100 |
|  | 100 | 2910 | 12293 | 1.77 | 1.88 | 9673 | 37787 |  | 100 |
|  | 100 | 2764 | 11969 | 1.73 | 1.86 | 9589 | 37231 |  | 100 |
|  | 100 | 2742 | 11792 | 1.79 | 1.84 | 9195 | 37093 |  | 100 |
|  | 100 | 2862 | 11576 | 1.81 | 1.80 | 9446 | 37663 |  | 100 |
|  | 100 | 2782 | 12161 | 1.78 | 1.88 | 9334 | 37430 |  | 100 |
|  | 100 | 2992 | 12092 | 1.86 | 1.86 | 9466 | 37581 |  | 100 |
|  | 100 | 3172 | 11378 | 1.92 | 1.78 | 9569 | 37217 |  | 100 |
|  | 100 | 2886 | 11793 | 1.83 | 1.83 | 9428 | 37288 |  | 100 |
|  | 100 | 2912 | 12039 | 1.83 | 1.85 | 9632 | 37875 |  | 100 |
|  | 100 | 2841 | 12157 | 1.77 | 1.90 | 9432 | 37067 |  | 100 |
|  | 100 | 3035 | 11714 | 1.85 | 1.83 | 9544 | 37440 |  | 100 |
|  | 100 | 2827 | 11603 | 1.81 | 1.81 | 9385 | 37347 |  | 100 |
|  | 100 | 2907 | 11408 | 1.85 | 1.75 | 9377 | 37973 |  | 100 |
|  | 100 | 2876 | 11837 | 1.77 | 1.85 | 9602 | 37012 |  | 100 |
|  | 99  | 2920 | 11428 | 1.84 | 1.79 | 9446 | 37410 |  | 100 |
|  | 100 | 2879 | 11524 | 1.78 | 1.82 | 9592 | 37641 |  | 100 |
|  | 100 | 2948 | 11871 | 1.88 | 1.82 | 9227 | 37828 |  | 100 |
|  | 99  | 2775 | 11765 | 1.76 | 1.85 | 9525 | 37523 |  | 100 |
|  | 100 | 2902 | 11778 | 1.83 | 1.86 | 9405 | 37313 |  | 100 |
|  | 98  | 3079 | 11326 | 1.91 | 1.80 | 9450 | 36707 |  | 100 |
|  | 99  | 2859 | 12102 | 1.81 | 1.85 | 9422 | 37512 |  | 100 |
|  | 100 | 2947 | 11668 | 1.83 | 1.83 | 9627 | 36970 |  | 100 |
|  | 100 | 2790 | 11920 | 1.76 | 1.83 | 9495 | 37945 |  | 100 |
|  | 100 | 2872 | 12167 | 1.76 | 1.88 | 9588 | 37230 |  | 100 |
|  | 100 | 2977 | 11943 | 1.86 | 1.86 | 9289 | 37038 |  | 100 |
|  | 99  | 2752 | 11652 | 1.76 | 1.78 | 9451 | 37925 |  | 100 |
|  | 100 | 3110 | 11939 | 1.93 | 1.84 | 9368 | 37610 |  | 100 |
|  | 99  | 2950 | 12283 | 1.84 | 1.86 | 9516 | 38097 |  | 100 |
|  | 100 | 2862 | 12621 | 1.82 | 1.91 | 9386 | 37954 |  | 100 |
|  | 98  | 2870 | 10994 | 1.85 | 1.74 | 9277 | 37704 |  | 100 |
|  | 100 | 3054 | 11403 | 1.91 | 1.76 | 9484 | 38018 |  | 100 |
|  | 99  | 3092 | 11889 | 1.88 | 1.84 | 9666 | 37506 |  | 100 |
|  | 100 | 2895 | 11814 | 1.81 | 1.83 | 9407 | 37880 |  | 100 |
|  | 100 | 2660 | 11349 | 1.70 | 1.84 | 9491 | 36668 |  | 100 |
|  | 99  | 2781 | 11901 | 1.76 | 1.86 | 9433 | 36954 |  | 100 |
|  | 99  | 2951 | 11557 | 1.85 | 1.80 | 9445 | 37407 |  | 100 |
|  | 100 | 2704 | 11768 | 1.73 | 1.79 | 9478 | 38138 |  | 100 |
|  | 100 | 2778 | 12294 | 1.73 | 1.90 | 9652 | 37559 |  | 100 |
|  | 99  | 2804 | 12218 | 1.79 | 1.90 | 9498 | 37376 |  | 100 |
|  | 100 | 2908 | 12342 | 1.81 | 1.91 | 9512 | 37572 |  | 100 |
|  | 99  | 2843 | 11560 | 1.78 | 1.82 | 9602 | 37479 |  | 100 |
|  | 100 | 2950 | 12264 | 1.83 | 1.89 | 9488 | 37642 |  | 100 |
|  | 100 | 2919 | 12004 | 1.82 | 1.91 | 9581 | 36478 |  | 100 |
|  | 99  | 2957 | 11525 | 1.85 | 1.80 | 9563 | 37223 |  | 100 |
|  | 100 | 2966 | 11762 | 1.82 | 1.85 | 9581 | 37445 |  | 100 |
|  | 99  | 2905 | 12552 | 1.85 | 1.90 | 9389 | 38491 |  | 100 |
|  | 100 | 2939 | 11659 | 1.81 | 1.84 | 9487 | 36906 |  | 100 |
|  | 100 | 2751 | 11761 | 1.74 | 1.83 | 9422 | 37947 |  | 100 |
|  | 100 | 2918 | 11997 | 1.84 | 1.83 | 9390 | 38029 |  | 100 |
|  | 99  | 2894 | 11053 | 1.85 | 1.74 | 9304 | 37326 |  | 100 |
|  | 98  | 2732 | 11445 | 1.73 | 1.79 | 9584 | 37288 |  | 100 |
|  | 100 | 3022 | 11782 | 1.89 | 1.83 | 9514 | 37670 |  | 100 |
|  | 100 | 2642 | 11844 | 1.70 | 1.84 | 9337 | 37465 |  | 100 |
|  | 99  | 2762 | 11399 | 1.77 | 1.78 | 9384 | 37885 |  | 100 |
|  | 100 | 3056 | 11890 | 1.89 | 1.84 | 9448 | 37506 |  | 100 |
|  | 100 | 2944 | 11150 | 1.85 | 1.75 | 9363 | 37463 |  | 100 |
|  | 100 | 2912 | 11443 | 1.81 | 1.79 | 9378 | 37629 |  | 100 |
|  | 100 | 2851 | 12093 | 1.82 | 1.89 | 9440 | 37126 |  | 100 |
|  | 100 | 2769 | 12310 | 1.83 | 1.87 | 9299 | 37796 |  | 100 |
|  | 100 | 2977 | 11636 | 1.84 | 1.80 | 9601 | 37462 |  | 100 |
|  | 100 | 2739 | 11898 | 1.77 | 1.82 | 9243 | 37721 |  | 100 |
|  | 100 | 2972 | 11457 | 1.82 | 1.80 | 9761 | 37105 |  | 100 |
|  | 98  | 2770 | 11528 | 1.75 | 1.81 | 9765 | 37065 |  | 100 |
|  | 98  | 2899 | 11746 | 1.84 | 1.83 | 9310 | 37477 |  | 100 |
|  | 99  | 3028 | 11697 | 1.89 | 1.78 | 9374 | 38286 |  | 100 |
|  | 100 | 2883 | 12291 | 1.81 | 1.87 | 9451 | 37639 |  | 100 |
|  | 100 | 2954 | 12842 | 1.84 | 1.96 | 9396 | 37406 |  | 100 |
|  | 99  | 2981 | 11952 | 1.85 | 1.85 | 9451 | 37640 |  | 100 |
|  | 100 | 2793 | 11626 | 1.75 | 1.83 | 9608 | 36841 |  | 100 |
|  | 100 | 2917 | 11414 | 1.83 | 1.80 | 9447 | 36572 |  | 100 |
|  | 100 | 2932 | 11823 | 1.82 | 1.85 | 9488 | 37234 |  | 100 |
|  | 99  | 3047 | 11551 | 1.88 | 1.80 | 9505 | 37696 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2826 | 12260 | 1.78 | 1.85 | 9469 | 38216 | 100 |
| 100 | 2983 | 12170 | 1.83 | 1.87 | 9710 | 37531 | 100 |
| 100 | 2842 | 12322 | 1.75 | 1.87 | 9702 | 37528 | 100 |
| 100 | 2847 | 12031 | 1.77 | 1.87 | 9490 | 37456 | 100 |
| 97  | 3103 | 11501 | 1.87 | 1.82 | 9545 | 37186 | 100 |
| 100 | 2894 | 12106 | 1.82 | 1.86 | 9600 | 37330 | 100 |
| 100 | 2861 | 11915 | 1.78 | 1.83 | 9649 | 37510 | 100 |
| 100 | 2812 | 12311 | 1.74 | 1.86 | 9591 | 38146 | 100 |
| 99  | 2930 | 11499 | 1.85 | 1.76 | 9376 | 38461 | 100 |
| 99  | 3012 | 11466 | 1.87 | 1.81 | 9495 | 37253 | 100 |
| 100 | 2867 | 12323 | 1.81 | 1.87 | 9412 | 38196 | 100 |
| 98  | 2974 | 11397 | 1.81 | 1.79 | 9664 | 37577 | 100 |
| 99  | 2832 | 11740 | 1.80 | 1.85 | 9423 | 37126 | 100 |
| 99  | 2857 | 12186 | 1.84 | 1.86 | 9304 | 37604 | 100 |
| 100 | 2793 | 12064 | 1.78 | 1.86 | 9566 | 37528 | 100 |
| 100 | 2900 | 11711 | 1.79 | 1.81 | 9495 | 37654 | 100 |
| 99  | 3052 | 11682 | 1.88 | 1.81 | 9492 | 37620 | 100 |
| 99  | 3027 | 11444 | 1.85 | 1.80 | 9592 | 37168 | 100 |
| 100 | 3115 | 12098 | 1.87 | 1.86 | 9660 | 37504 | 100 |
| 100 | 2855 | 11412 | 1.83 | 1.81 | 9352 | 36762 | 100 |
| 100 | 2766 | 12276 | 1.79 | 1.92 | 9392 | 37205 | 100 |
| 100 | 2801 | 11665 | 1.79 | 1.83 | 9325 | 37206 | 100 |
| 99  | 2773 | 11596 | 1.78 | 1.82 | 9270 | 36752 | 100 |
| 100 | 2819 | 12007 | 1.80 | 1.87 | 9279 | 37340 | 100 |
| 100 | 3137 | 12409 | 1.94 | 1.89 | 9580 | 38108 | 100 |
| 100 | 3054 | 11948 | 1.87 | 1.86 | 9594 | 37361 | 100 |
| 99  | 2798 | 11578 | 1.75 | 1.85 | 9519 | 37181 | 100 |
| 100 | 2796 | 11501 | 1.76 | 1.81 | 9484 | 36994 | 100 |
| 99  | 2880 | 11672 | 1.79 | 1.86 | 9685 | 36630 | 100 |
| 99  | 2876 | 11759 | 1.79 | 1.82 | 9515 | 37464 | 100 |
| 100 | 2908 | 12021 | 1.85 | 1.85 | 9376 | 37863 | 100 |
| 100 | 2854 | 11899 | 1.81 | 1.85 | 9561 | 37378 | 100 |
| 98  | 2848 | 12348 | 1.80 | 1.84 | 9312 | 38706 | 100 |
| 98  | 3200 | 11457 | 1.94 | 1.80 | 9580 | 36979 | 100 |
| 98  | 2776 | 11046 | 1.74 | 1.75 | 9429 | 36983 | 100 |
| 100 | 3011 | 12441 | 1.88 | 1.91 | 9386 | 37627 | 100 |
| 100 | 3051 | 11745 | 1.85 | 1.83 | 9738 | 37180 | 100 |
| 100 | 2846 | 11711 | 1.80 | 1.84 | 9452 | 36848 | 100 |
| 100 | 2734 | 11623 | 1.73 | 1.85 | 9450 | 36418 | 100 |
| 98  | 3177 | 11067 | 1.94 | 1.73 | 9549 | 38116 | 100 |
| 100 | 2860 | 12592 | 1.78 | 1.95 | 9544 | 37415 | 100 |
| 100 | 2753 | 12018 | 1.76 | 1.88 | 9584 | 36710 | 100 |
| 100 | 2803 | 12250 | 1.81 | 1.88 | 9292 | 37612 | 100 |
| 99  | 2800 | 12121 | 1.81 | 1.84 | 9328 | 38108 | 100 |
| 99  | 3095 | 11948 | 1.86 | 1.84 | 9692 | 37614 | 100 |
| 99  | 2760 | 11584 | 1.76 | 1.85 | 9449 | 36339 | 100 |
| 99  | 2985 | 12076 | 1.88 | 1.90 | 9347 | 37428 | 100 |
| 100 | 2787 | 12307 | 1.75 | 1.90 | 9647 | 37024 | 100 |
| 100 | 2835 | 12405 | 1.81 | 1.88 | 9267 | 38014 | 100 |
| 100 | 2933 | 10960 | 1.80 | 1.75 | 9566 | 37201 | 100 |
| 99  | 2817 | 12163 | 1.75 | 1.88 | 9580 | 37347 | 100 |
| 100 | 2920 | 11253 | 1.82 | 1.81 | 9409 | 36844 | 100 |
| 100 | 2979 | 11492 | 1.89 | 1.80 | 9488 | 37276 | 100 |
| 99  | 3058 | 11142 | 1.88 | 1.75 | 9484 | 37828 | 100 |
| 100 | 3036 | 12197 | 1.88 | 1.86 | 9425 | 37996 | 100 |
| 98  | 2772 | 10635 | 1.71 | 1.69 | 9714 | 37409 | 100 |
| 100 | 2886 | 11042 | 1.85 | 1.78 | 9185 | 36463 | 100 |
| 100 | 3031 | 12285 | 1.90 | 1.86 | 9408 | 38038 | 100 |
| 100 | 2791 | 11978 | 1.79 | 1.84 | 9312 | 37906 | 100 |
| 99  | 2815 | 12304 | 1.80 | 1.86 | 9323 | 38222 | 100 |
| 99  | 3108 | 11704 | 1.85 | 1.84 | 9923 | 36954 | 100 |
| 99  | 2952 | 11653 | 1.81 | 1.84 | 9604 | 36693 | 100 |
| 100 | 2879 | 12104 | 1.81 | 1.86 | 9560 | 37976 | 100 |
| 98  | 2735 | 11615 | 1.74 | 1.80 | 9310 | 37768 | 100 |
| 100 | 2910 | 11814 | 1.81 | 1.83 | 9555 | 37579 | 100 |
| 99  | 2849 | 11880 | 1.76 | 1.81 | 9649 | 37843 | 100 |
| 100 | 2772 | 11787 | 1.73 | 1.81 | 9650 | 38055 | 100 |
| 100 | 2927 | 11558 | 1.88 | 1.82 | 9197 | 37257 | 100 |
| 99  | 2776 | 11116 | 1.77 | 1.76 | 9290 | 37054 | 100 |
| 100 | 2829 | 11641 | 1.78 | 1.82 | 9408 | 37652 | 100 |
| 100 | 2940 | 11209 | 1.78 | 1.76 | 9741 | 37259 | 100 |
| 100 | 3005 | 11425 | 1.87 | 1.80 | 9378 | 37346 | 100 |
| 100 | 2996 | 12127 | 1.85 | 1.87 | 9704 | 38010 | 100 |
| 99  | 2933 | 12308 | 1.85 | 1.86 | 9382 | 38045 | 100 |
| 99  | 2804 | 11561 | 1.76 | 1.83 | 9361 | 36595 | 100 |
| 98  | 2822 | 11418 | 1.81 | 1.82 | 9115 | 36468 | 100 |
| 100 | 3095 | 11906 | 1.85 | 1.81 | 9789 | 38443 | 100 |
| 100 | 3025 | 12455 | 1.84 | 1.86 | 9781 | 38552 | 100 |
| 100 | 2967 | 10895 | 1.82 | 1.75 | 9410 | 36927 | 100 |
| 100 | 2792 | 12272 | 1.80 | 1.93 | 9173 | 36456 | 100 |
| 100 | 2844 | 11071 | 1.83 | 1.74 | 9297 | 37038 | 100 |
| 100 | 2854 | 11914 | 1.81 | 1.81 | 9453 | 37985 | 100 |
| 100 | 2785 | 11600 | 1.74 | 1.81 | 9501 | 36783 | 100 |
| 99  | 2870 | 11489 | 1.77 | 1.76 | 9481 | 38225 | 100 |
| 98  | 2865 | 12125 | 1.74 | 1.84 | 9849 | 38322 | 100 |
| 99  | 2770 | 11301 | 1.72 | 1.73 | 9885 | 38574 | 100 |
| 100 | 2822 | 12072 | 1.78 | 1.86 | 9575 | 37722 | 100 |
| 99  | 3229 | 11385 | 1.96 | 1.76 | 9510 | 38077 | 100 |
| 100 | 3090 | 12387 | 1.86 | 1.91 | 9676 | 37147 | 100 |
| 100 | 2735 | 12072 | 1.81 | 1.88 | 9216 | 37166 | 100 |
| 100 | 2792 | 11360 | 1.73 | 1.75 | 9716 | 37879 | 100 |
| 100 | 2831 | 11804 | 1.77 | 1.82 | 9577 | 37471 | 100 |
| 99  | 2833 | 11945 | 1.77 | 1.85 | 9560 | 37335 | 100 |
| 99  | 2781 | 11181 | 1.74 | 1.75 | 9631 | 37418 | 100 |
| 99  | 3018 | 12519 | 1.87 | 1.91 | 9541 | 38087 | 100 |

|  |     |      |       |      |      |       |       |     |
|--|-----|------|-------|------|------|-------|-------|-----|
|  | 95  | 2874 | 10973 | 1.85 | 1.75 | 9342  | 37361 | 100 |
|  | 100 | 2999 | 13050 | 1.83 | 1.91 | 9753  | 39250 | 100 |
|  | 100 | 2763 | 12358 | 1.79 | 1.92 | 9104  | 37343 | 100 |
|  | 99  | 3334 | 12218 | 1.98 | 1.90 | 9763  | 38095 | 100 |
|  | 100 | 3121 | 12260 | 1.96 | 1.91 | 9338  | 37065 | 100 |
|  | 99  | 2919 | 11840 | 1.80 | 1.81 | 9603  | 37860 | 100 |
|  | 100 | 2964 | 12266 | 1.79 | 1.87 | 9856  | 37955 | 100 |
|  | 100 | 3106 | 11451 | 1.93 | 1.79 | 9455  | 37299 | 100 |
|  | 100 | 3182 | 12684 | 1.96 | 1.93 | 9504  | 37491 | 100 |
|  | 100 | 2969 | 11902 | 1.88 | 1.85 | 9288  | 37278 | 100 |
|  | 100 | 2809 | 11325 | 1.75 | 1.75 | 9605  | 38291 | 100 |
|  | 99  | 3043 | 11934 | 1.88 | 1.84 | 9599  | 37093 | 100 |
|  | 98  | 2921 | 12112 | 1.85 | 1.84 | 9299  | 37792 | 100 |
|  | 98  | 3084 | 12242 | 1.84 | 1.89 | 9658  | 37503 | 100 |
|  | 99  | 2946 | 11251 | 1.82 | 1.79 | 9544  | 36763 | 100 |
|  | 100 | 2705 | 11731 | 1.74 | 1.83 | 9320  | 36889 | 100 |
|  | 100 | 2833 | 12003 | 1.79 | 1.85 | 9468  | 37708 | 100 |
|  | 97  | 2699 | 11758 | 1.76 | 1.81 | 9208  | 37937 | 100 |
|  | 99  | 3037 | 12275 | 1.84 | 1.86 | 9570  | 38284 | 100 |
|  | 100 | 2767 | 12574 | 1.78 | 1.90 | 9464  | 38181 | 100 |
|  | 99  | 2982 | 11895 | 1.87 | 1.87 | 9475  | 37365 | 100 |
|  | 98  | 2973 | 11711 | 1.92 | 1.84 | 9050  | 37262 | 100 |
|  | 100 | 2886 | 12959 | 1.76 | 1.97 | 9659  | 37350 | 100 |
|  | 99  | 2820 | 11246 | 1.74 | 1.74 | 9658  | 37812 | 100 |
|  | 99  | 2846 | 12307 | 1.83 | 1.87 | 9267  | 38564 | 100 |
|  | 100 | 2549 | 11014 | 1.67 | 1.76 | 9362  | 36630 | 100 |
|  | 100 | 2778 | 12428 | 1.77 | 1.89 | 9373  | 37731 | 100 |
|  | 98  | 2930 | 11953 | 1.82 | 1.92 | 9548  | 36467 | 100 |
|  | 99  | 2895 | 11227 | 1.80 | 1.80 | 9695  | 36913 | 100 |
|  | 98  | 2998 | 11553 | 1.84 | 1.81 | 9609  | 37511 | 100 |
|  | 99  | 2934 | 12164 | 1.85 | 1.82 | 9476  | 38845 | 100 |
|  | 100 | 2754 | 12244 | 1.74 | 1.90 | 9484  | 36722 | 100 |
|  | 99  | 2832 | 11624 | 1.82 | 1.89 | 9115  | 36265 | 100 |
|  | 100 | 2885 | 11542 | 1.82 | 1.84 | 9457  | 36123 | 100 |
|  | 99  | 2673 | 11086 | 1.75 | 1.77 | 9203  | 37003 | 100 |
|  | 98  | 2999 | 11267 | 1.80 | 1.78 | 9853  | 37842 | 100 |
|  | 99  | 2770 | 12505 | 1.72 | 1.89 | 9642  | 38192 | 100 |
|  | 98  | 2973 | 12267 | 1.82 | 1.84 | 9609  | 38707 | 100 |
|  | 100 | 3068 | 11372 | 1.92 | 1.81 | 9431  | 37187 | 100 |
|  | 99  | 2867 | 11787 | 1.86 | 1.86 | 9144  | 36620 | 100 |
|  | 97  | 2985 | 12068 | 1.81 | 1.81 | 9856  | 38596 | 100 |
|  | 100 | 2826 | 12253 | 1.78 | 1.88 | 9424  | 38016 | 100 |
|  | 97  | 2782 | 11056 | 1.78 | 1.78 | 9225  | 36695 | 100 |
|  | 99  | 2959 | 12154 | 1.85 | 1.87 | 9385  | 37271 | 100 |
|  | 100 | 3069 | 12295 | 1.85 | 1.87 | 9662  | 37836 | 100 |
|  | 100 | 2709 | 11610 | 1.78 | 1.80 | 9137  | 37411 | 100 |
|  | 99  | 2710 | 11637 | 1.76 | 1.79 | 9328  | 38177 | 100 |
|  | 99  | 3271 | 12211 | 1.94 | 1.93 | 9733  | 37571 | 100 |
|  | 100 | 2808 | 11933 | 1.78 | 1.89 | 9396  | 36155 | 100 |
|  | 100 | 2779 | 12179 | 1.77 | 1.87 | 9373  | 37578 | 100 |
|  | 100 | 3004 | 12150 | 1.88 | 1.88 | 9360  | 37742 | 100 |
|  | 99  | 3122 | 11339 | 1.88 | 1.78 | 9625  | 37097 | 100 |
|  | 100 | 2817 | 11941 | 1.76 | 1.89 | 9510  | 37292 | 100 |
|  | 99  | 2763 | 11157 | 1.82 | 1.76 | 8864  | 37294 | 100 |
|  | 98  | 2879 | 11272 | 1.80 | 1.75 | 9521  | 37461 | 100 |
|  | 100 | 2883 | 12133 | 1.83 | 1.90 | 9270  | 37123 | 100 |
|  | 100 | 3070 | 11646 | 1.88 | 1.79 | 9497  | 37930 | 100 |
|  | 99  | 2740 | 12131 | 1.74 | 1.83 | 9368  | 38456 | 100 |
|  | 100 | 2766 | 11588 | 1.76 | 1.84 | 9429  | 36856 | 100 |
|  | 100 | 2807 | 11288 | 1.79 | 1.77 | 9396  | 37431 | 100 |
|  | 100 | 2975 | 11982 | 1.81 | 1.88 | 9618  | 37350 | 100 |
|  | 100 | 2680 | 11905 | 1.73 | 1.86 | 9408  | 37307 | 100 |
|  | 99  | 3010 | 12345 | 1.83 | 1.88 | 9630  | 38069 | 100 |
|  | 100 | 3015 | 12104 | 1.88 | 1.82 | 9288  | 38527 | 100 |
|  | 98  | 3024 | 12000 | 1.88 | 1.84 | 9458  | 38093 | 100 |
|  | 100 | 2798 | 11910 | 1.77 | 1.87 | 9464  | 36816 | 100 |
|  | 100 | 2821 | 12409 | 1.81 | 1.90 | 9311  | 37838 | 100 |
|  | 100 | 2905 | 11346 | 1.75 | 1.80 | 9739  | 36893 | 100 |
|  | 100 | 2916 | 11721 | 1.85 | 1.83 | 9409  | 37457 | 100 |
|  | 100 | 3004 | 12267 | 1.85 | 1.88 | 9608  | 37558 | 100 |
|  | 99  | 2759 | 11542 | 1.74 | 1.76 | 9493  | 38245 | 100 |
|  | 99  | 2836 | 12048 | 1.77 | 1.86 | 9508  | 37717 | 100 |
|  | 98  | 3037 | 11547 | 1.92 | 1.84 | 9330  | 36183 | 100 |
|  | 100 | 2661 | 11890 | 1.73 | 1.82 | 9408  | 37815 | 100 |
|  | 100 | 2957 | 11989 | 1.83 | 1.83 | 9430  | 37761 | 100 |
|  | 100 | 2953 | 11792 | 1.83 | 1.81 | 9506  | 37897 | 100 |
|  | 98  | 2777 | 11919 | 1.77 | 1.86 | 9423  | 37441 | 100 |
|  | 100 | 3059 | 11691 | 1.85 | 1.87 | 9677  | 36262 | 100 |
|  | 100 | 2873 | 11136 | 1.83 | 1.78 | 9261  | 37041 | 100 |
|  | 99  | 2906 | 11691 | 1.79 | 1.80 | 9633  | 37801 | 100 |
|  | 100 | 2832 | 11679 | 1.79 | 1.81 | 9565  | 37716 | 100 |
|  | 98  | 3055 | 12073 | 1.87 | 1.83 | 9573  | 38231 | 100 |
|  | 99  | 2865 | 12310 | 1.79 | 1.91 | 9389  | 37458 | 100 |
|  | 100 | 2786 | 11593 | 1.74 | 1.83 | 9452  | 37085 | 100 |
|  | 99  | 2712 | 12020 | 1.74 | 1.86 | 9582  | 37206 | 100 |
|  | 100 | 2764 | 12670 | 1.77 | 1.91 | 9239  | 38107 | 100 |
|  | 98  | 3066 | 11826 | 1.85 | 1.81 | 9740  | 37827 | 100 |
|  | 99  | 3049 | 12068 | 1.89 | 1.84 | 9426  | 38162 | 100 |
|  | 100 | 2753 | 11965 | 1.80 | 1.85 | 8863  | 37394 | 100 |
|  | 97  | 3192 | 11629 | 1.85 | 1.80 | 10110 | 37500 | 100 |
|  | 99  | 2808 | 11571 | 1.77 | 1.84 | 9507  | 36526 | 100 |
|  | 99  | 2907 | 12447 | 1.80 | 1.90 | 9692  | 37743 | 100 |
|  | 99  | 2827 | 11479 | 1.82 | 1.84 | 9298  | 35610 | 100 |
|  | 100 | 2801 | 12917 | 1.75 | 1.88 | 9620  | 39411 | 100 |
|  | 98  | 2850 | 11413 | 1.82 | 1.80 | 9135  | 37422 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2805 | 11771 | 1.76 | 1.83 | 9506 | 37429 |  | 100 |
|  | 100 | 2930 | 11931 | 1.83 | 1.85 | 9448 | 37426 |  | 100 |
|  | 98  | 2840 | 11878 | 1.81 | 1.82 | 9421 | 37536 |  | 100 |
|  | 99  | 2814 | 11810 | 1.84 | 1.82 | 9025 | 37737 |  | 100 |
|  | 98  | 2914 | 11972 | 1.81 | 1.86 | 9548 | 37852 |  | 100 |
|  | 99  | 2972 | 12303 | 1.87 | 1.85 | 9521 | 38377 |  | 100 |
|  | 98  | 2844 | 11683 | 1.79 | 1.81 | 9487 | 37730 |  | 100 |
|  | 100 | 2815 | 11505 | 1.81 | 1.81 | 9454 | 36852 |  | 100 |
|  | 100 | 2901 | 11736 | 1.79 | 1.85 | 9646 | 37021 |  | 100 |
|  | 98  | 2930 | 12342 | 1.82 | 1.87 | 9522 | 38228 |  | 100 |
|  | 100 | 2782 | 12355 | 1.76 | 1.85 | 9471 | 38791 |  | 100 |
|  | 100 | 2892 | 11546 | 1.80 | 1.82 | 9455 | 36715 |  | 100 |
|  | 96  | 2687 | 11736 | 1.76 | 1.78 | 9080 | 38702 |  | 100 |
|  | 100 | 2701 | 11094 | 1.74 | 1.76 | 9414 | 37161 |  | 100 |
|  | 100 | 2979 | 12756 | 1.87 | 1.92 | 9302 | 37857 |  | 100 |
|  | 100 | 2801 | 12369 | 1.77 | 1.89 | 9472 | 37847 |  | 100 |
|  | 100 | 2881 | 12144 | 1.81 | 1.88 | 9447 | 37172 |  | 100 |
|  | 99  | 2805 | 11620 | 1.80 | 1.82 | 9251 | 37021 |  | 100 |
|  | 100 | 2831 | 11810 | 1.80 | 1.83 | 9351 | 37510 |  | 100 |
|  | 100 | 2846 | 11784 | 1.81 | 1.83 | 9373 | 37551 |  | 100 |
|  | 99  | 3173 | 11880 | 1.92 | 1.83 | 9649 | 37529 |  | 100 |
|  | 98  | 3116 | 12220 | 1.89 | 1.89 | 9566 | 37578 |  | 100 |
|  | 98  | 2883 | 11598 | 1.83 | 1.82 | 9341 | 37162 |  | 100 |
|  | 98  | 2867 | 12994 | 1.85 | 1.95 | 9249 | 37947 |  | 100 |
|  | 97  | 2768 | 11503 | 1.75 | 1.80 | 9412 | 37272 |  | 100 |
|  | 100 | 3042 | 12261 | 1.90 | 1.87 | 9436 | 37832 |  | 100 |
|  | 99  | 2925 | 11613 | 1.84 | 1.81 | 9287 | 37363 |  | 100 |
|  | 100 | 2874 | 12164 | 1.84 | 1.88 | 9396 | 37391 |  | 100 |
|  | 100 | 2805 | 11826 | 1.81 | 1.84 | 9171 | 37771 |  | 100 |
|  | 99  | 2979 | 11284 | 1.86 | 1.79 | 9462 | 37482 |  | 100 |
|  | 97  | 2901 | 11891 | 1.87 | 1.84 | 9264 | 37437 |  | 100 |
|  | 100 | 2832 | 11872 | 1.83 | 1.82 | 9143 | 38358 |  | 100 |
|  | 99  | 2909 | 11791 | 1.81 | 1.83 | 9543 | 37334 |  | 100 |
|  | 100 | 2964 | 11445 | 1.88 | 1.83 | 9150 | 36930 |  | 100 |
|  | 99  | 2867 | 11658 | 1.82 | 1.83 | 9374 | 36729 |  | 100 |
|  | 99  | 3105 | 12054 | 1.94 | 1.85 | 9415 | 37901 |  | 100 |
|  | 99  | 3018 | 12109 | 1.85 | 1.82 | 9796 | 38335 |  | 100 |
|  | 100 | 2782 | 11549 | 1.78 | 1.80 | 9396 | 37298 |  | 100 |
|  | 99  | 2832 | 10641 | 1.80 | 1.73 | 9339 | 36643 |  | 100 |
|  | 100 | 2847 | 11934 | 1.81 | 1.83 | 9337 | 37630 |  | 100 |
|  | 99  | 2799 | 11651 | 1.74 | 1.81 | 9474 | 37538 |  | 100 |
|  | 100 | 2940 | 12180 | 1.89 | 1.86 | 9260 | 37718 |  | 100 |
|  | 99  | 2798 | 11635 | 1.80 | 1.82 | 9343 | 37599 |  | 100 |
|  | 100 | 2849 | 11267 | 1.84 | 1.77 | 9217 | 37128 |  | 100 |
|  | 98  | 2858 | 11333 | 1.84 | 1.77 | 9233 | 38030 |  | 100 |
|  | 100 | 2879 | 11339 | 1.75 | 1.78 | 9663 | 37250 |  | 100 |
|  | 99  | 3257 | 11783 | 1.98 | 1.82 | 9527 | 37658 |  | 100 |
|  | 100 | 3087 | 12079 | 1.87 | 1.81 | 9786 | 38404 |  | 100 |
|  | 98  | 2983 | 11268 | 1.90 | 1.79 | 9360 | 36882 |  | 100 |
|  | 100 | 2908 | 11134 | 1.81 | 1.79 | 9545 | 36425 |  | 100 |
|  | 99  | 2873 | 11746 | 1.76 | 1.87 | 9620 | 36366 |  | 100 |
|  | 99  | 3119 | 11482 | 1.93 | 1.79 | 9591 | 37611 |  | 100 |
|  | 100 | 3133 | 12165 | 1.92 | 1.84 | 9539 | 37922 |  | 100 |
|  | 100 | 2795 | 11886 | 1.82 | 1.85 | 9150 | 37499 |  | 100 |
|  | 98  | 2928 | 11692 | 1.85 | 1.84 | 9281 | 37585 |  | 100 |
|  | 99  | 2880 | 12076 | 1.80 | 1.86 | 9615 | 37418 |  | 100 |
|  | 100 | 3228 | 11733 | 1.95 | 1.80 | 9434 | 37757 |  | 100 |
|  | 100 | 3000 | 11633 | 1.82 | 1.83 | 9669 | 36873 |  | 100 |
|  | 99  | 2761 | 12719 | 1.77 | 1.91 | 9311 | 37910 |  | 100 |
|  | 99  | 3119 | 11450 | 1.90 | 1.78 | 9564 | 37607 |  | 100 |
|  | 100 | 2863 | 11760 | 1.75 | 1.83 | 9729 | 37214 |  | 100 |
|  | 100 | 2751 | 11773 | 1.73 | 1.83 | 9567 | 37626 |  | 100 |
|  | 97  | 2931 | 11911 | 1.85 | 1.84 | 9314 | 37519 |  | 100 |
|  | 100 | 2777 | 11886 | 1.78 | 1.86 | 9295 | 37140 |  | 100 |
|  | 100 | 2827 | 11415 | 1.80 | 1.79 | 9257 | 37104 |  | 100 |
|  | 99  | 3066 | 11914 | 1.89 | 1.82 | 9634 | 38026 |  | 100 |
|  | 99  | 3001 | 12331 | 1.88 | 1.87 | 9328 | 37822 |  | 100 |
|  | 99  | 3015 | 12294 | 1.85 | 1.88 | 9592 | 38162 |  | 100 |
|  | 100 | 2911 | 11160 | 1.86 | 1.76 | 9274 | 37252 |  | 100 |
|  | 99  | 2743 | 12021 | 1.74 | 1.88 | 9487 | 36801 |  | 100 |
|  | 100 | 3049 | 12251 | 1.88 | 1.88 | 9745 | 37761 |  | 100 |
|  | 100 | 2692 | 11916 | 1.71 | 1.88 | 9590 | 36644 |  | 100 |
|  | 98  | 2923 | 11883 | 1.85 | 1.83 | 9475 | 37723 |  | 100 |
|  | 98  | 3043 | 11259 | 1.90 | 1.79 | 9431 | 37252 |  | 100 |
|  | 98  | 3058 | 11376 | 1.89 | 1.81 | 9349 | 36209 |  | 100 |
|  | 100 | 2722 | 11337 | 1.73 | 1.79 | 9449 | 37650 |  | 100 |
|  | 100 | 3111 | 12389 | 1.92 | 1.90 | 9456 | 37458 |  | 100 |
|  | 100 | 2892 | 12144 | 1.81 | 1.86 | 9434 | 37613 |  | 100 |
|  | 98  | 2898 | 11592 | 1.82 | 1.82 | 9397 | 37258 |  | 100 |
|  | 100 | 2820 | 12053 | 1.79 | 1.87 | 9409 | 37578 |  | 100 |
|  | 100 | 2732 | 11915 | 1.79 | 1.83 | 9248 | 37915 |  | 100 |
|  | 100 | 2633 | 11440 | 1.70 | 1.84 | 9655 | 36256 |  | 100 |
|  | 99  | 2960 | 11905 | 1.86 | 1.86 | 9435 | 36994 |  | 100 |
|  | 96  | 2990 | 11669 | 1.82 | 1.81 | 9615 | 37719 |  | 100 |
|  | 100 | 2910 | 12484 | 1.80 | 1.91 | 9584 | 37246 |  | 100 |
|  | 100 | 2667 | 11223 | 1.77 | 1.76 | 9060 | 37226 |  | 100 |
|  | 98  | 2735 | 12151 | 1.75 | 1.90 | 9576 | 37182 |  | 100 |
|  | 100 | 3055 | 11407 | 1.88 | 1.81 | 9504 | 36995 |  | 100 |
|  | 99  | 2755 | 12082 | 1.76 | 1.88 | 9405 | 37557 |  | 100 |
|  | 99  | 2952 | 11879 | 1.82 | 1.84 | 9480 | 38192 |  | 100 |
|  | 99  | 2857 | 11331 | 1.84 | 1.77 | 9381 | 37804 |  | 100 |
|  | 99  | 3022 | 12203 | 1.87 | 1.85 | 9524 | 38872 |  | 100 |
|  | 99  | 2996 | 12877 | 1.85 | 1.91 | 9546 | 38417 |  | 100 |
|  | 99  | 2911 | 11113 | 1.84 | 1.75 | 9410 | 37437 |  | 100 |
|  | 99  | 2907 | 12058 | 1.81 | 1.81 | 9501 | 38237 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 98  | 3123 | 11946 | 1.88 | 1.84 | 9619 | 37781 | 100 |
|  | 99  | 2845 | 11535 | 1.80 | 1.82 | 9301 | 37325 | 100 |
|  | 100 | 2758 | 12067 | 1.74 | 1.86 | 9538 | 37568 | 100 |
|  | 99  | 2885 | 11448 | 1.79 | 1.80 | 9488 | 37170 | 100 |
|  | 99  | 2756 | 11744 | 1.76 | 1.83 | 9411 | 36990 | 100 |
|  | 98  | 2819 | 11735 | 1.79 | 1.83 | 9432 | 37305 | 100 |
|  | 100 | 2879 | 12006 | 1.84 | 1.85 | 9356 | 37263 | 100 |
|  | 100 | 2884 | 11995 | 1.80 | 1.86 | 9526 | 37466 | 100 |
|  | 99  | 2906 | 11894 | 1.82 | 1.84 | 9447 | 37372 | 100 |
|  | 100 | 2879 | 12612 | 1.79 | 1.91 | 9582 | 38041 | 100 |
|  | 98  | 2684 | 11709 | 1.74 | 1.85 | 9393 | 36823 | 100 |
|  | 99  | 2875 | 12128 | 1.82 | 1.84 | 9519 | 37779 | 100 |
|  | 100 | 2990 | 11030 | 1.82 | 1.75 | 9808 | 36801 | 100 |
|  | 99  | 2988 | 11867 | 1.84 | 1.82 | 9589 | 37441 | 100 |
|  | 99  | 2877 | 11989 | 1.84 | 1.84 | 9234 | 37768 | 100 |
|  | 100 | 2972 | 11851 | 1.89 | 1.81 | 9318 | 38151 | 100 |
|  | 100 | 3122 | 10974 | 1.91 | 1.79 | 9423 | 35947 | 100 |
|  | 100 | 3008 | 11753 | 1.86 | 1.82 | 9431 | 37561 | 100 |
|  | 98  | 2997 | 11487 | 1.85 | 1.78 | 9509 | 37808 | 100 |
|  | 100 | 2939 | 12459 | 1.85 | 1.89 | 9453 | 37751 | 100 |
|  | 98  | 2898 | 12063 | 1.83 | 1.84 | 9453 | 37736 | 100 |
|  | 100 | 2790 | 11509 | 1.76 | 1.77 | 9498 | 38664 | 100 |
|  | 100 | 2827 | 11437 | 1.83 | 1.77 | 9234 | 37800 | 100 |
|  | 100 | 2836 | 12681 | 1.78 | 1.90 | 9604 | 38069 | 100 |
|  | 98  | 2741 | 11558 | 1.79 | 1.80 | 9074 | 37520 | 100 |
|  | 100 | 2922 | 11379 | 1.82 | 1.81 | 9593 | 36834 | 100 |
|  | 100 | 2942 | 11320 | 1.83 | 1.82 | 9481 | 36646 | 100 |
|  | 100 | 2994 | 11939 | 1.86 | 1.87 | 9422 | 36958 | 100 |
|  | 99  | 2781 | 11750 | 1.77 | 1.80 | 9390 | 37867 | 100 |
|  | 99  | 2831 | 12232 | 1.77 | 1.88 | 9646 | 37113 | 100 |
|  | 99  | 2997 | 11773 | 1.89 | 1.83 | 9359 | 37135 | 100 |
|  | 100 | 2975 | 11865 | 1.82 | 1.83 | 9797 | 37691 | 100 |
|  | 99  | 2951 | 11936 | 1.79 | 1.81 | 9881 | 38282 | 100 |
|  | 99  | 2882 | 11862 | 1.82 | 1.83 | 9393 | 37981 | 100 |
|  | 98  | 3033 | 11085 | 1.84 | 1.78 | 9650 | 36723 | 100 |
|  | 100 | 2952 | 11013 | 1.90 | 1.75 | 9203 | 37083 | 100 |
|  | 99  | 2864 | 11906 | 1.78 | 1.83 | 9595 | 37761 | 100 |
|  | 100 | 2936 | 11630 | 1.84 | 1.81 | 9523 | 37113 | 100 |
|  | 99  | 3165 | 12099 | 1.95 | 1.88 | 9727 | 36889 | 100 |
|  | 100 | 2845 | 12005 | 1.83 | 1.84 | 9382 | 38019 | 100 |
|  | 99  | 2938 | 11962 | 1.83 | 1.84 | 9388 | 37371 | 100 |
|  | 100 | 2745 | 12494 | 1.74 | 1.90 | 9334 | 37595 | 100 |
|  | 100 | 2916 | 12150 | 1.82 | 1.86 | 9630 | 37815 | 100 |
|  | 98  | 2929 | 11385 | 1.81 | 1.79 | 9558 | 37236 | 100 |
|  | 100 | 2890 | 11926 | 1.81 | 1.90 | 9482 | 36525 | 100 |
|  | 100 | 2889 | 11924 | 1.82 | 1.86 | 9293 | 37393 | 100 |
|  | 99  | 3071 | 11441 | 1.92 | 1.76 | 9602 | 37993 | 100 |
|  | 100 | 3009 | 12132 | 1.86 | 1.86 | 9541 | 37820 | 100 |
|  | 99  | 2877 | 12144 | 1.81 | 1.82 | 9317 | 38780 | 100 |
|  | 100 | 2874 | 11556 | 1.86 | 1.78 | 9128 | 37851 | 100 |
|  | 99  | 2799 | 11243 | 1.77 | 1.77 | 9327 | 37452 | 100 |
|  | 100 | 2743 | 12186 | 1.81 | 1.93 | 9038 | 37155 | 100 |
|  | 98  | 3145 | 12222 | 1.92 | 1.90 | 9500 | 36966 | 100 |
|  | 100 | 2793 | 12253 | 1.78 | 1.86 | 9418 | 38024 | 100 |
|  | 100 | 2790 | 11823 | 1.81 | 1.83 | 9211 | 37554 | 100 |
|  | 100 | 2785 | 12180 | 1.77 | 1.86 | 9430 | 38096 | 100 |
|  | 100 | 2917 | 11934 | 1.83 | 1.83 | 9359 | 37772 | 100 |
|  | 100 | 2656 | 11812 | 1.74 | 1.81 | 9257 | 37745 | 100 |
|  | 97  | 2692 | 11276 | 1.72 | 1.79 | 9350 | 36726 | 100 |
|  | 99  | 2974 | 11123 | 1.87 | 1.78 | 9247 | 36815 | 100 |
|  | 99  | 2778 | 11829 | 1.77 | 1.81 | 9449 | 38358 | 100 |
|  | 100 | 2726 | 11805 | 1.77 | 1.83 | 9273 | 37645 | 100 |
|  | 99  | 2846 | 11419 | 1.81 | 1.82 | 9429 | 36940 | 100 |
|  | 100 | 2992 | 11905 | 1.88 | 1.89 | 9350 | 36632 | 100 |
|  | 100 | 2868 | 11929 | 1.81 | 1.86 | 9409 | 37267 | 100 |
|  | 100 | 3073 | 12147 | 1.90 | 1.90 | 9511 | 36755 | 100 |
|  | 99  | 2895 | 11326 | 1.87 | 1.78 | 9057 | 36713 | 100 |
|  | 96  | 2992 | 11091 | 1.91 | 1.74 | 9248 | 37322 | 100 |
|  | 99  | 3049 | 11657 | 1.90 | 1.81 | 9236 | 37946 | 100 |
|  | 100 | 3222 | 11941 | 1.96 | 1.83 | 9462 | 37977 | 100 |
|  | 99  | 2673 | 11423 | 1.69 | 1.80 | 9624 | 36610 | 100 |
|  | 100 | 3086 | 11288 | 1.85 | 1.76 | 9736 | 37513 | 100 |
|  | 99  | 2742 | 11913 | 1.75 | 1.83 | 9414 | 37527 | 100 |
|  | 98  | 2863 | 11511 | 1.76 | 1.81 | 9666 | 37103 | 100 |
|  | 100 | 2813 | 11476 | 1.77 | 1.83 | 9420 | 36897 | 100 |
|  | 100 | 2915 | 11402 | 1.82 | 1.82 | 9511 | 36649 | 100 |
|  | 98  | 2842 | 12148 | 1.80 | 1.85 | 9311 | 38485 | 100 |
|  | 100 | 2916 | 11892 | 1.84 | 1.79 | 9316 | 38763 | 100 |
|  | 98  | 2699 | 11654 | 1.79 | 1.77 | 9030 | 38433 | 100 |
|  | 99  | 2897 | 10913 | 1.87 | 1.74 | 9195 | 36969 | 100 |
|  | 99  | 3030 | 10940 | 1.90 | 1.73 | 9202 | 37359 | 100 |
|  | 99  | 2760 | 11698 | 1.76 | 1.84 | 9477 | 37407 | 100 |
|  | 99  | 3076 | 11564 | 1.85 | 1.82 | 9784 | 36987 | 100 |
|  | 99  | 2926 | 11559 | 1.84 | 1.82 | 9458 | 37004 | 100 |
|  | 100 | 3009 | 11837 | 1.86 | 1.86 | 9467 | 37154 | 100 |
|  | 100 | 2843 | 11944 | 1.76 | 1.88 | 9687 | 37432 | 100 |
|  | 98  | 2954 | 11776 | 1.85 | 1.86 | 9514 | 36455 | 100 |
|  | 100 | 3014 | 11906 | 1.93 | 1.85 | 9215 | 37341 | 100 |
|  | 99  | 2828 | 11564 | 1.82 | 1.79 | 9238 | 37760 | 100 |
|  | 100 | 2881 | 11938 | 1.80 | 1.84 | 9481 | 37650 | 100 |
|  | 100 | 2920 | 11667 | 1.85 | 1.82 | 9374 | 37103 | 100 |
|  | 100 | 3048 | 11406 | 1.88 | 1.77 | 9517 | 37555 | 100 |
|  | 99  | 2841 | 11838 | 1.78 | 1.86 | 9435 | 37464 | 100 |
|  | 100 | 2802 | 10956 | 1.76 | 1.76 | 9630 | 36669 | 100 |
|  | 99  | 2798 | 12008 | 1.76 | 1.83 | 9499 | 38361 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2836 | 11937 | 1.77 | 1.86 | 9492 | 37564 | 100 |
|  | 100 | 2879 | 12318 | 1.80 | 1.89 | 9525 | 37480 | 100 |
|  | 98  | 2863 | 11661 | 1.82 | 1.80 | 9404 | 37640 | 100 |
|  | 100 | 2935 | 12410 | 1.83 | 1.91 | 9263 | 37261 | 100 |
|  | 100 | 2908 | 12561 | 1.85 | 1.90 | 9520 | 38088 | 100 |
|  | 100 | 3028 | 11920 | 1.89 | 1.84 | 9293 | 37722 | 100 |
|  | 100 | 2928 | 11673 | 1.84 | 1.84 | 9306 | 37075 | 100 |
|  | 100 | 2935 | 11321 | 1.87 | 1.78 | 9280 | 37397 | 100 |
|  | 99  | 2807 | 11974 | 1.81 | 1.84 | 9348 | 37421 | 100 |
|  | 100 | 2853 | 11852 | 1.79 | 1.84 | 9526 | 37869 | 100 |
|  | 100 | 2891 | 12493 | 1.83 | 1.91 | 9212 | 37752 | 100 |
|  | 99  | 2853 | 12199 | 1.81 | 1.92 | 9302 | 36241 | 100 |
|  | 100 | 2982 | 11817 | 1.87 | 1.87 | 9263 | 37088 | 100 |
|  | 100 | 2699 | 11863 | 1.76 | 1.83 | 9295 | 37714 | 100 |
|  | 100 | 2899 | 11411 | 1.83 | 1.81 | 9310 | 36702 | 100 |
|  | 100 | 2959 | 12055 | 1.82 | 1.87 | 9633 | 37157 | 100 |
|  | 99  | 2806 | 12556 | 1.79 | 1.93 | 9289 | 37452 | 100 |
|  | 100 | 2795 | 11461 | 1.79 | 1.79 | 9513 | 37317 | 100 |
|  | 99  | 2656 | 11101 | 1.70 | 1.79 | 9429 | 36219 | 100 |
|  | 100 | 3037 | 12081 | 1.86 | 1.83 | 9452 | 38207 | 100 |
|  | 99  | 3128 | 11390 | 1.89 | 1.77 | 9713 | 37496 | 100 |
|  | 99  | 3046 | 11692 | 1.86 | 1.84 | 9656 | 36763 | 100 |
|  | 100 | 2742 | 12366 | 1.77 | 1.89 | 9198 | 37697 | 100 |
|  | 100 | 3047 | 11977 | 1.92 | 1.84 | 9608 | 37582 | 100 |
|  | 100 | 3130 | 11686 | 1.92 | 1.82 | 9345 | 37504 | 100 |
|  | 99  | 3007 | 11839 | 1.83 | 1.84 | 9619 | 36991 | 100 |
|  | 99  | 3212 | 11542 | 1.94 | 1.82 | 9541 | 36894 | 100 |
|  | 99  | 3084 | 11967 | 1.89 | 1.86 | 9493 | 37175 | 100 |
|  | 99  | 3018 | 11552 | 1.82 | 1.88 | 9697 | 36109 | 100 |
|  | 100 | 2848 | 11721 | 1.80 | 1.84 | 9426 | 36600 | 100 |
|  | 100 | 2900 | 11938 | 1.81 | 1.88 | 9424 | 36691 | 100 |
|  | 99  | 2745 | 11473 | 1.77 | 1.80 | 9370 | 37498 | 100 |
|  | 100 | 3098 | 11348 | 1.91 | 1.81 | 9575 | 36709 | 100 |
|  | 100 | 2796 | 11827 | 1.78 | 1.81 | 9396 | 38021 | 100 |
|  | 100 | 2955 | 11808 | 1.87 | 1.84 | 9277 | 37438 | 100 |
|  | 100 | 3125 | 11272 | 1.89 | 1.79 | 9684 | 36879 | 100 |
|  | 99  | 2949 | 11828 | 1.83 | 1.82 | 9546 | 37567 | 100 |
|  | 99  | 2895 | 11923 | 1.79 | 1.87 | 9631 | 36794 | 100 |
|  | 97  | 3086 | 11925 | 1.88 | 1.87 | 9749 | 36931 | 100 |
|  | 99  | 2764 | 12381 | 1.76 | 1.90 | 9336 | 37217 | 100 |
|  | 100 | 2767 | 11398 | 1.75 | 1.79 | 9532 | 37390 | 100 |
|  | 99  | 3056 | 12503 | 1.84 | 1.91 | 9785 | 37736 | 100 |
|  | 100 | 2954 | 12688 | 1.85 | 1.93 | 9338 | 37991 | 100 |
|  | 99  | 2838 | 12128 | 1.78 | 1.86 | 9497 | 37682 | 100 |
|  | 100 | 2954 | 12075 | 1.85 | 1.84 | 9502 | 37543 | 100 |
|  | 100 | 2889 | 11811 | 1.80 | 1.86 | 9390 | 37087 | 100 |
|  | 96  | 2881 | 11449 | 1.78 | 1.81 | 9548 | 36797 | 100 |
|  | 100 | 2814 | 12287 | 1.77 | 1.89 | 9556 | 37434 | 100 |
|  | 100 | 2803 | 11876 | 1.77 | 1.84 | 9384 | 37647 | 100 |
|  | 100 | 2797 | 11791 | 1.76 | 1.87 | 9425 | 37167 | 100 |
|  | 100 | 3040 | 11854 | 1.88 | 1.86 | 9504 | 36958 | 100 |
|  | 100 | 3225 | 11468 | 2.00 | 1.80 | 9455 | 36921 | 100 |
|  | 99  | 2819 | 12277 | 1.79 | 1.91 | 9444 | 37266 | 100 |
|  | 98  | 2865 | 12498 | 1.80 | 1.93 | 9414 | 37771 | 100 |
|  | 99  | 2861 | 11963 | 1.80 | 1.83 | 9426 | 37397 | 100 |
|  | 100 | 3106 | 11541 | 1.89 | 1.81 | 9596 | 37429 | 100 |
|  | 100 | 3013 | 12430 | 1.81 | 1.91 | 9664 | 37025 | 100 |
|  | 97  | 2817 | 11911 | 1.79 | 1.84 | 9222 | 37638 | 100 |
|  | 100 | 2899 | 11509 | 1.81 | 1.79 | 9387 | 37874 | 100 |
|  | 100 | 2897 | 11473 | 1.83 | 1.80 | 9382 | 36895 | 100 |
|  | 100 | 2898 | 11488 | 1.86 | 1.83 | 9118 | 36317 | 100 |
|  | 100 | 3110 | 12498 | 1.90 | 1.91 | 9462 | 37804 | 100 |
|  | 100 | 3059 | 11748 | 1.85 | 1.84 | 9628 | 36700 | 100 |
|  | 99  | 2941 | 12149 | 1.84 | 1.85 | 9498 | 38012 | 100 |
|  | 99  | 2952 | 12717 | 1.79 | 1.93 | 9666 | 37582 | 100 |
|  | 100 | 3044 | 11437 | 1.88 | 1.81 | 9360 | 36754 | 100 |
|  | 100 | 2771 | 12294 | 1.77 | 1.90 | 9403 | 36960 | 100 |
|  | 100 | 2946 | 11265 | 1.83 | 1.82 | 9424 | 36576 | 100 |
|  | 97  | 2949 | 11463 | 1.86 | 1.79 | 9405 | 37732 | 100 |
|  | 100 | 2795 | 11197 | 1.77 | 1.77 | 9487 | 36721 | 100 |
|  | 100 | 2819 | 11560 | 1.76 | 1.81 | 9447 | 37686 | 100 |
|  | 99  | 2819 | 11931 | 1.81 | 1.85 | 9323 | 37548 | 100 |
|  | 99  | 2945 | 11902 | 1.86 | 1.85 | 9232 | 37402 | 100 |
|  | 99  | 2926 | 12501 | 1.87 | 1.91 | 9311 | 37156 | 100 |
|  | 100 | 2978 | 11859 | 1.83 | 1.84 | 9555 | 37797 | 100 |
|  | 100 | 2971 | 11541 | 1.91 | 1.80 | 9183 | 37702 | 100 |
|  | 99  | 3057 | 11612 | 1.89 | 1.80 | 9466 | 37842 | 100 |
|  | 100 | 2861 | 11246 | 1.84 | 1.77 | 9150 | 37284 | 100 |
|  | 100 | 2974 | 12083 | 1.83 | 1.84 | 9862 | 37826 | 100 |
|  | 100 | 3037 | 12226 | 1.89 | 1.87 | 9590 | 37790 | 100 |
|  | 100 | 3054 | 11647 | 1.87 | 1.86 | 9738 | 36013 | 100 |
|  | 100 | 2848 | 11682 | 1.78 | 1.84 | 9419 | 36618 | 100 |
|  | 99  | 2703 | 12019 | 1.72 | 1.87 | 9599 | 37353 | 100 |
|  | 100 | 3082 | 12010 | 1.89 | 1.89 | 9482 | 36780 | 100 |
|  | 100 | 2991 | 12082 | 1.85 | 1.86 | 9562 | 37545 | 100 |
|  | 98  | 2940 | 11860 | 1.86 | 1.83 | 9081 | 37573 | 100 |
|  | 100 | 3036 | 12195 | 1.91 | 1.88 | 9454 | 37647 | 100 |
|  | 100 | 3146 | 11908 | 1.95 | 1.86 | 9310 | 37472 | 100 |
|  | 99  | 3201 | 11718 | 1.96 | 1.85 | 9567 | 36732 | 100 |
|  | 100 | 2881 | 11177 | 1.80 | 1.78 | 9434 | 36671 | 100 |
|  | 99  | 2868 | 11167 | 1.79 | 1.77 | 9470 | 37194 | 100 |
|  | 99  | 3291 | 11686 | 2.00 | 1.80 | 9535 | 38202 | 100 |
|  | 99  | 2952 | 11589 | 1.87 | 1.84 | 9338 | 36566 | 100 |
|  | 99  | 2935 | 12073 | 1.82 | 1.86 | 9591 | 37349 | 100 |
|  | 100 | 2877 | 11678 | 1.83 | 1.81 | 9261 | 37337 | 100 |



|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 2885 | 11587 | 1.81 | 1.81 | 9485 | 37471 | 100 |
|  | 99  | 2994 | 11618 | 1.85 | 1.79 | 9630 | 37809 | 100 |
|  | 100 | 2849 | 12280 | 1.79 | 1.86 | 9396 | 38527 | 100 |
|  | 98  | 2898 | 11741 | 1.81 | 1.83 | 9350 | 37168 | 100 |
|  | 99  | 2930 | 11359 | 1.85 | 1.80 | 9293 | 37090 | 100 |
|  | 100 | 2824 | 11747 | 1.81 | 1.84 | 9263 | 36744 | 100 |
|  | 100 | 3031 | 12302 | 1.87 | 1.86 | 9568 | 37818 | 100 |
|  | 100 | 2889 | 12575 | 1.82 | 1.92 | 9495 | 37594 | 100 |
|  | 99  | 2904 | 11873 | 1.87 | 1.85 | 9086 | 37224 | 100 |
|  | 99  | 2797 | 12378 | 1.76 | 1.88 | 9534 | 37894 | 100 |
|  | 99  | 2975 | 12310 | 1.86 | 1.87 | 9399 | 38235 | 100 |
|  | 100 | 2765 | 11705 | 1.75 | 1.83 | 9469 | 37286 | 100 |
|  | 98  | 2828 | 12391 | 1.80 | 1.87 | 9447 | 38080 | 100 |
|  | 99  | 2956 | 11546 | 1.85 | 1.84 | 9406 | 36465 | 100 |
|  | 99  | 2967 | 11625 | 1.84 | 1.81 | 9617 | 37316 | 100 |
|  | 99  | 2797 | 11647 | 1.75 | 1.81 | 9728 | 37477 | 100 |
|  | 100 | 3005 | 11488 | 1.86 | 1.81 | 9433 | 37084 | 100 |
|  | 98  | 3077 | 12278 | 1.89 | 1.88 | 9433 | 38289 | 100 |
|  | 100 | 3020 | 11896 | 1.87 | 1.86 | 9449 | 37092 | 100 |
|  | 99  | 2989 | 12590 | 1.87 | 1.89 | 9634 | 38006 | 100 |
|  | 100 | 3061 | 11621 | 1.88 | 1.83 | 9471 | 36927 | 100 |
|  | 100 | 3000 | 11609 | 1.85 | 1.81 | 9541 | 37191 | 100 |
|  | 100 | 3011 | 12683 | 1.86 | 1.94 | 9405 | 37344 | 100 |
|  | 100 | 2796 | 11760 | 1.74 | 1.82 | 9666 | 37387 | 100 |
|  | 100 | 2979 | 11684 | 1.85 | 1.83 | 9447 | 37134 | 100 |
|  | 100 | 2965 | 12216 | 1.86 | 1.89 | 9395 | 37686 | 100 |
|  | 98  | 2954 | 12032 | 1.87 | 1.85 | 9259 | 38062 | 100 |
|  | 98  | 3033 | 12001 | 1.86 | 1.87 | 9496 | 37257 | 100 |
|  | 100 | 3048 | 11998 | 1.91 | 1.84 | 9437 | 37883 | 100 |
|  | 100 | 2904 | 11160 | 1.85 | 1.79 | 9347 | 36610 | 100 |
|  | 99  | 3114 | 11930 | 1.93 | 1.86 | 9556 | 37089 | 100 |
|  | 98  | 2855 | 11897 | 1.79 | 1.83 | 9565 | 37918 | 100 |
|  | 100 | 2869 | 12326 | 1.82 | 1.90 | 9442 | 37698 | 100 |
|  | 100 | 2873 | 11752 | 1.80 | 1.83 | 9414 | 37540 | 100 |
|  | 100 | 2975 | 11813 | 1.87 | 1.83 | 9270 | 37426 | 100 |
|  | 100 | 2896 | 12242 | 1.84 | 1.88 | 9317 | 37906 | 100 |
|  | 100 | 2855 | 11987 | 1.85 | 1.81 | 9145 | 38036 | 100 |
|  | 100 | 2979 | 12175 | 1.87 | 1.86 | 9374 | 37822 | 100 |
|  | 98  | 2877 | 11821 | 1.78 | 1.89 | 9550 | 36233 | 100 |
|  | 98  | 2932 | 11678 | 1.79 | 1.83 | 9596 | 37304 | 100 |
|  | 98  | 3276 | 11992 | 1.98 | 1.86 | 9646 | 37404 | 100 |
|  | 100 | 2849 | 10903 | 1.79 | 1.76 | 9609 | 36755 | 100 |
|  | 100 | 2898 | 12316 | 1.82 | 1.90 | 9463 | 37644 | 100 |
|  | 99  | 2942 | 11345 | 1.87 | 1.79 | 9158 | 37162 | 100 |
|  | 100 | 3015 | 10980 | 1.90 | 1.75 | 9348 | 37199 | 100 |
|  | 100 | 2735 | 11267 | 1.78 | 1.82 | 9336 | 35978 | 100 |
|  | 99  | 2819 | 11454 | 1.77 | 1.81 | 9439 | 37396 | 100 |
|  | 100 | 2846 | 12386 | 1.80 | 1.92 | 9302 | 37561 | 100 |
|  | 99  | 2953 | 11448 | 1.82 | 1.80 | 9467 | 37325 | 100 |
|  | 99  | 2844 | 11840 | 1.81 | 1.84 | 9298 | 37199 | 100 |
|  | 100 | 2823 | 12032 | 1.77 | 1.83 | 9490 | 38300 | 100 |
|  | 100 | 2873 | 11843 | 1.83 | 1.81 | 9159 | 37973 | 100 |
|  | 100 | 2936 | 11027 | 1.87 | 1.74 | 9383 | 37583 | 100 |
|  | 98  | 2976 | 11815 | 1.83 | 1.82 | 9530 | 37751 | 100 |
|  | 100 | 3000 | 11685 | 1.85 | 1.84 | 9392 | 37228 | 100 |
|  | 100 | 3009 | 12399 | 1.88 | 1.93 | 9473 | 36702 | 100 |
|  | 100 | 3013 | 12243 | 1.85 | 1.88 | 9670 | 37580 | 100 |
|  | 97  | 3063 | 11584 | 1.89 | 1.81 | 9597 | 37575 | 100 |
|  | 99  | 2828 | 12276 | 1.76 | 1.89 | 9495 | 37520 | 100 |
|  | 100 | 2839 | 12092 | 1.78 | 1.84 | 9452 | 37880 | 100 |
|  | 96  | 2807 | 11687 | 1.77 | 1.82 | 9488 | 37515 | 100 |
|  | 100 | 3314 | 11640 | 1.98 | 1.84 | 9574 | 37141 | 100 |
|  | 99  | 2833 | 11550 | 1.79 | 1.82 | 9404 | 37056 | 100 |
|  | 100 | 3056 | 12592 | 1.84 | 1.90 | 9777 | 37980 | 100 |
|  | 100 | 2885 | 11585 | 1.80 | 1.80 | 9572 | 37604 | 100 |
|  | 99  | 3141 | 10970 | 1.87 | 1.78 | 9818 | 36512 | 100 |
|  | 99  | 2880 | 11779 | 1.82 | 1.82 | 9314 | 38207 | 100 |
|  | 100 | 2956 | 12207 | 1.84 | 1.92 | 9374 | 36956 | 100 |
|  | 100 | 3014 | 11677 | 1.86 | 1.83 | 9553 | 36895 | 100 |
|  | 100 | 2937 | 11840 | 1.83 | 1.85 | 9337 | 37285 | 100 |
|  | 100 | 2878 | 11621 | 1.82 | 1.82 | 9365 | 36993 | 100 |
|  | 100 | 2838 | 11481 | 1.80 | 1.79 | 9395 | 37190 | 100 |
|  | 100 | 2822 | 11461 | 1.78 | 1.81 | 9276 | 36756 | 100 |
|  | 100 | 2980 | 12379 | 1.81 | 1.88 | 9738 | 37852 | 100 |
|  | 100 | 2816 | 11173 | 1.80 | 1.76 | 9272 | 37652 | 100 |
|  | 99  | 2814 | 11662 | 1.78 | 1.81 | 9377 | 37848 | 100 |
|  | 100 | 2964 | 12433 | 1.88 | 1.87 | 9348 | 38418 | 100 |
|  | 99  | 2893 | 11954 | 1.81 | 1.87 | 9578 | 37465 | 100 |
|  | 100 | 3113 | 12065 | 1.90 | 1.85 | 9491 | 38074 | 100 |
|  | 98  | 3183 | 11595 | 1.97 | 1.81 | 9613 | 37457 | 100 |
|  | 99  | 2967 | 12302 | 1.84 | 1.89 | 9606 | 37571 | 100 |
|  | 100 | 2929 | 11869 | 1.84 | 1.85 | 9349 | 37299 | 100 |
|  | 99  | 2927 | 11611 | 1.82 | 1.81 | 9656 | 37556 | 100 |
|  | 99  | 2888 | 11267 | 1.82 | 1.82 | 9349 | 36460 | 100 |
|  | 100 | 2744 | 11946 | 1.70 | 1.86 | 9629 | 37543 | 100 |
|  | 99  | 2940 | 11558 | 1.83 | 1.81 | 9462 | 37606 | 100 |
|  | 100 | 2813 | 11788 | 1.78 | 1.81 | 9553 | 38241 | 100 |
|  | 99  | 3086 | 11770 | 1.89 | 1.83 | 9353 | 37362 | 100 |
|  | 100 | 2815 | 12290 | 1.82 | 1.85 | 9260 | 38315 | 100 |
|  | 99  | 3036 | 11393 | 1.91 | 1.79 | 9353 | 36846 | 100 |
|  | 100 | 3002 | 12129 | 1.86 | 1.87 | 9544 | 37314 | 100 |
|  | 100 | 3080 | 12071 | 1.90 | 1.88 | 9427 | 37242 | 100 |
|  | 100 | 2972 | 11361 | 1.83 | 1.76 | 9539 | 37742 | 100 |
|  | 99  | 3053 | 12517 | 1.91 | 1.88 | 9370 | 38389 | 100 |
|  | 100 | 3038 | 11854 | 1.84 | 1.83 | 9814 | 37608 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 97  | 3215 | 11724 | 1.97 | 1.86 | 9622 | 36496 | 100 |
|  | 100 | 2916 | 11475 | 1.85 | 1.80 | 9423 | 37315 | 100 |
|  | 99  | 2803 | 11948 | 1.79 | 1.86 | 9524 | 36997 | 100 |
|  | 99  | 2852 | 12049 | 1.80 | 1.85 | 9403 | 37886 | 100 |
|  | 100 | 2866 | 12171 | 1.82 | 1.86 | 9374 | 37739 | 100 |
|  | 99  | 2928 | 11542 | 1.90 | 1.81 | 9466 | 37372 | 100 |
|  | 100 | 2858 | 12178 | 1.81 | 1.87 | 9379 | 37737 | 100 |
|  | 99  | 2886 | 12211 | 1.83 | 1.89 | 9292 | 37526 | 100 |
|  | 99  | 2883 | 12609 | 1.81 | 1.92 | 9345 | 37923 | 100 |
|  | 99  | 2803 | 12676 | 1.80 | 1.93 | 9311 | 38079 | 100 |
|  | 97  | 3013 | 12056 | 1.90 | 1.84 | 9250 | 37868 | 100 |
|  | 100 | 3121 | 12362 | 1.97 | 1.88 | 9405 | 37723 | 100 |
|  | 100 | 3150 | 12032 | 1.96 | 1.84 | 9361 | 37630 | 100 |
|  | 100 | 2939 | 11906 | 1.82 | 1.84 | 9379 | 37704 | 100 |
|  | 100 | 2775 | 12720 | 1.80 | 1.90 | 9237 | 38602 | 100 |
|  | 100 | 2858 | 11788 | 1.78 | 1.85 | 9581 | 37175 | 100 |
|  | 100 | 2832 | 11473 | 1.84 | 1.80 | 9304 | 37749 | 100 |
|  | 99  | 3042 | 12274 | 1.92 | 1.87 | 9229 | 37575 | 100 |
|  | 99  | 2749 | 11747 | 1.72 | 1.82 | 9507 | 37596 | 100 |
|  | 100 | 2743 | 11880 | 1.73 | 1.82 | 9385 | 37918 | 100 |
|  | 99  | 3051 | 11920 | 1.86 | 1.87 | 9449 | 36887 | 100 |
|  | 100 | 2860 | 12218 | 1.81 | 1.91 | 9354 | 37928 | 100 |
|  | 99  | 2925 | 11597 | 1.85 | 1.80 | 9317 | 38117 | 100 |
|  | 99  | 2869 | 11609 | 1.82 | 1.81 | 9419 | 37056 | 100 |
|  | 99  | 2985 | 11793 | 1.84 | 1.85 | 9590 | 36819 | 100 |
|  | 99  | 2767 | 11974 | 1.73 | 1.92 | 9542 | 35605 | 100 |
|  | 100 | 2919 | 12164 | 1.78 | 1.90 | 9701 | 37093 | 100 |
|  | 100 | 2842 | 11466 | 1.81 | 1.80 | 9414 | 37156 | 100 |
|  | 100 | 2805 | 11438 | 1.77 | 1.83 | 9483 | 36630 | 100 |
|  | 99  | 2979 | 12459 | 1.85 | 1.89 | 9484 | 37866 | 100 |
|  | 100 | 2876 | 11874 | 1.84 | 1.79 | 9292 | 38778 | 100 |
|  | 98  | 3032 | 11124 | 1.85 | 1.76 | 9522 | 37618 | 100 |
|  | 98  | 3015 | 11584 | 1.87 | 1.77 | 9430 | 38054 | 100 |
|  | 100 | 3015 | 11619 | 1.88 | 1.83 | 9500 | 37075 | 100 |
|  | 99  | 2870 | 12020 | 1.76 | 1.89 | 9681 | 36540 | 100 |
|  | 98  | 2805 | 12364 | 1.75 | 1.93 | 9508 | 37212 | 100 |
|  | 99  | 2669 | 12166 | 1.71 | 1.88 | 9302 | 37242 | 100 |
|  | 100 | 2641 | 11914 | 1.75 | 1.82 | 8969 | 37874 | 100 |
|  | 100 | 2911 | 11619 | 1.81 | 1.78 | 9383 | 38469 | 100 |
|  | 99  | 2959 | 11172 | 1.82 | 1.75 | 9556 | 37199 | 100 |
|  | 100 | 2722 | 11827 | 1.70 | 1.87 | 9664 | 36898 | 100 |
|  | 98  | 3051 | 11594 | 1.86 | 1.85 | 9738 | 36691 | 100 |
|  | 100 | 2933 | 11901 | 1.82 | 1.88 | 9588 | 36437 | 100 |
|  | 100 | 2915 | 12064 | 1.78 | 1.88 | 9644 | 36908 | 100 |
|  | 98  | 2912 | 11561 | 1.84 | 1.83 | 9395 | 36486 | 100 |
|  | 99  | 2964 | 11790 | 1.83 | 1.86 | 9454 | 36941 | 100 |
|  | 100 | 2869 | 11946 | 1.79 | 1.90 | 9501 | 36792 | 100 |
|  | 98  | 2853 | 11953 | 1.78 | 1.86 | 9336 | 37612 | 100 |
|  | 100 | 2825 | 12251 | 1.79 | 1.91 | 9330 | 36684 | 100 |
|  | 99  | 2890 | 12006 | 1.82 | 1.81 | 9278 | 38912 | 100 |
|  | 100 | 3006 | 11649 | 1.85 | 1.84 | 9763 | 37223 | 100 |
|  | 100 | 3196 | 11669 | 1.93 | 1.85 | 9653 | 36397 | 100 |
|  | 98  | 2807 | 12073 | 1.78 | 1.92 | 9270 | 36314 | 100 |
|  | 100 | 2838 | 11809 | 1.77 | 1.82 | 9662 | 37546 | 100 |
|  | 99  | 2588 | 12576 | 1.66 | 1.91 | 9432 | 37697 | 100 |
|  | 99  | 3065 | 11466 | 1.87 | 1.77 | 9529 | 38529 | 100 |
|  | 98  | 3164 | 11630 | 1.93 | 1.79 | 9561 | 38034 | 100 |
|  | 100 | 2678 | 11681 | 1.76 | 1.80 | 9064 | 38074 | 100 |
|  | 99  | 3017 | 11633 | 1.90 | 1.79 | 9286 | 37829 | 100 |
|  | 99  | 2824 | 11378 | 1.79 | 1.76 | 9512 | 37851 | 100 |
|  | 100 | 2907 | 11730 | 1.85 | 1.83 | 9263 | 37462 | 100 |
|  | 100 | 2921 | 11222 | 1.78 | 1.80 | 9823 | 36516 | 100 |
|  | 100 | 2679 | 12311 | 1.70 | 1.89 | 9445 | 37347 | 100 |
|  | 99  | 2820 | 12372 | 1.78 | 1.88 | 9445 | 38003 | 100 |
|  | 100 | 2863 | 11930 | 1.78 | 1.85 | 9514 | 37162 | 100 |
|  | 99  | 2919 | 12778 | 1.78 | 1.99 | 9648 | 36863 | 100 |
|  | 100 | 2876 | 11865 | 1.85 | 1.79 | 9265 | 38955 | 100 |
|  | 99  | 3004 | 11400 | 1.88 | 1.78 | 9374 | 37620 | 100 |
|  | 99  | 3123 | 11143 | 1.87 | 1.76 | 9678 | 36979 | 100 |
|  | 99  | 3033 | 11547 | 1.85 | 1.81 | 9701 | 37004 | 100 |
|  | 99  | 2862 | 11767 | 1.78 | 1.87 | 9666 | 36596 | 100 |
|  | 99  | 2777 | 12308 | 1.76 | 1.91 | 9414 | 37065 | 100 |
|  | 100 | 2774 | 11546 | 1.75 | 1.82 | 9372 | 37468 | 100 |
|  | 98  | 2852 | 12429 | 1.76 | 1.90 | 9524 | 37489 | 100 |
|  | 100 | 2611 | 12116 | 1.72 | 1.87 | 9093 | 38062 | 100 |
|  | 97  | 2833 | 11986 | 1.79 | 1.86 | 9404 | 37553 | 100 |
|  | 99  | 3075 | 11795 | 1.94 | 1.83 | 9205 | 37435 | 100 |
|  | 100 | 2889 | 11675 | 1.78 | 1.78 | 9650 | 38092 | 100 |
|  | 100 | 2883 | 12068 | 1.84 | 1.88 | 9295 | 37239 | 100 |
|  | 100 | 2763 | 12482 | 1.77 | 1.91 | 9388 | 37631 | 100 |
|  | 99  | 3036 | 11433 | 1.88 | 1.75 | 9375 | 37912 | 100 |
|  | 100 | 3187 | 11672 | 1.95 | 1.77 | 9629 | 38185 | 100 |
|  | 99  | 2879 | 10960 | 1.79 | 1.76 | 9702 | 36412 | 100 |
|  | 99  | 3084 | 11173 | 1.87 | 1.77 | 9744 | 36758 | 100 |
|  | 96  | 3020 | 11652 | 1.82 | 1.86 | 9691 | 36356 | 100 |
|  | 98  | 2801 | 11689 | 1.76 | 1.84 | 9333 | 37170 | 100 |
|  | 100 | 2726 | 12070 | 1.75 | 1.88 | 9149 | 37354 | 100 |
|  | 100 | 2739 | 12731 | 1.75 | 1.95 | 9466 | 37587 | 100 |
|  | 99  | 2545 | 12344 | 1.63 | 1.90 | 9590 | 37624 | 100 |
|  | 100 | 2893 | 12308 | 1.79 | 1.89 | 9484 | 38292 | 100 |
|  | 98  | 2896 | 12028 | 1.82 | 1.82 | 9371 | 38504 | 100 |
|  | 99  | 3045 | 11583 | 1.93 | 1.77 | 9401 | 38476 | 100 |
|  | 100 | 3159 | 11573 | 1.98 | 1.77 | 9399 | 37701 | 100 |
|  | 99  | 2977 | 11455 | 1.86 | 1.76 | 9389 | 37957 | 100 |
|  | 100 | 3087 | 11149 | 1.89 | 1.78 | 9553 | 36550 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2848 | 11423 | 1.74 | 1.82 | 9759 | 36627 |  | 100 |
|  | 98  | 2835 | 11223 | 1.75 | 1.82 | 9657 | 36314 |  | 100 |
|  | 99  | 2865 | 12175 | 1.74 | 1.89 | 9841 | 37117 |  | 100 |
|  | 99  | 2946 | 12026 | 1.80 | 1.84 | 9714 | 37792 |  | 100 |
|  | 99  | 2807 | 12384 | 1.80 | 1.88 | 9256 | 37874 |  | 100 |
|  | 99  | 2909 | 12404 | 1.85 | 1.87 | 9257 | 38325 |  | 100 |
|  | 99  | 2915 | 12471 | 1.88 | 1.94 | 9107 | 37563 |  | 100 |
|  | 98  | 2838 | 11573 | 1.80 | 1.81 | 9468 | 37216 |  | 100 |
|  | 100 | 3029 | 12215 | 1.89 | 1.85 | 9281 | 38310 |  | 100 |
|  | 100 | 2992 | 11771 | 1.91 | 1.81 | 9305 | 37902 |  | 100 |
|  | 100 | 2878 | 11937 | 1.79 | 1.86 | 9564 | 37123 |  | 100 |
|  | 99  | 3022 | 11892 | 1.86 | 1.81 | 9655 | 37733 |  | 100 |
|  | 99  | 3169 | 11560 | 1.90 | 1.83 | 9723 | 36695 |  | 100 |
|  | 99  | 3004 | 10638 | 1.87 | 1.71 | 9534 | 37057 |  | 100 |
|  | 99  | 3140 | 11336 | 1.90 | 1.79 | 9849 | 37295 |  | 100 |
|  | 100 | 2824 | 12080 | 1.78 | 1.90 | 9476 | 37023 |  | 100 |
|  | 99  | 2875 | 11748 | 1.82 | 1.83 | 9354 | 37376 |  | 100 |
|  | 100 | 3115 | 11668 | 1.84 | 1.85 | 9796 | 36525 |  | 100 |
|  | 100 | 2652 | 12183 | 1.71 | 1.91 | 9420 | 36400 |  | 100 |
|  | 99  | 2766 | 12561 | 1.73 | 1.92 | 9591 | 37393 |  | 100 |
|  | 99  | 2824 | 12345 | 1.78 | 1.87 | 9344 | 38660 |  | 100 |
|  | 99  | 2878 | 12158 | 1.80 | 1.85 | 9401 | 38237 |  | 100 |
|  | 98  | 2941 | 12071 | 1.85 | 1.84 | 9284 | 38185 |  | 100 |
|  | 99  | 3067 | 11478 | 1.88 | 1.75 | 9597 | 38481 |  | 100 |
|  | 100 | 3101 | 11183 | 1.93 | 1.76 | 9423 | 37258 |  | 100 |
|  | 99  | 2961 | 11907 | 1.82 | 1.88 | 9506 | 36433 |  | 100 |
|  | 99  | 2799 | 11698 | 1.75 | 1.85 | 9583 | 36662 |  | 100 |
|  | 100 | 2864 | 12069 | 1.77 | 1.85 | 9624 | 37473 |  | 100 |
|  | 99  | 2984 | 12051 | 1.85 | 1.87 | 9538 | 37162 |  | 100 |
|  | 99  | 2837 | 11955 | 1.77 | 1.89 | 9596 | 36968 |  | 100 |
|  | 99  | 2871 | 11836 | 1.77 | 1.85 | 9507 | 37063 |  | 100 |
|  | 100 | 2848 | 12047 | 1.81 | 1.84 | 9209 | 38047 |  | 100 |
|  | 99  | 2950 | 12373 | 1.82 | 1.88 | 9546 | 38262 |  | 100 |
|  | 100 | 2815 | 11890 | 1.80 | 1.82 | 9235 | 38444 |  | 100 |
|  | 98  | 2833 | 11907 | 1.81 | 1.84 | 9396 | 37800 |  | 100 |
|  | 100 | 2839 | 12003 | 1.81 | 1.83 | 9326 | 37868 |  | 100 |
|  | 100 | 2951 | 12098 | 1.87 | 1.82 | 9124 | 38451 |  | 100 |
|  | 99  | 3075 | 11813 | 1.91 | 1.81 | 9453 | 38282 |  | 100 |
|  | 98  | 2876 | 11745 | 1.79 | 1.80 | 9573 | 38140 |  | 100 |
|  | 100 | 3011 | 11624 | 1.83 | 1.85 | 9807 | 36819 |  | 100 |
|  | 98  | 2968 | 11838 | 1.82 | 1.91 | 9583 | 35972 |  | 100 |
|  | 100 | 2654 | 12222 | 1.67 | 1.89 | 9696 | 37815 |  | 100 |
|  | 100 | 2868 | 12990 | 1.78 | 1.97 | 9583 | 37886 |  | 100 |
|  | 99  | 2896 | 12288 | 1.81 | 1.89 | 9425 | 37762 |  | 100 |
|  | 100 | 3003 | 11016 | 1.91 | 1.77 | 9447 | 36720 |  | 100 |
|  | 100 | 2614 | 12088 | 1.68 | 1.92 | 9439 | 36713 |  | 100 |
|  | 98  | 3073 | 12115 | 1.87 | 1.89 | 9652 | 37083 |  | 100 |
|  | 100 | 2780 | 12364 | 1.76 | 1.92 | 9375 | 37085 |  | 100 |
|  | 99  | 3056 | 12513 | 1.89 | 1.90 | 9422 | 38242 |  | 100 |
|  | 98  | 2834 | 12250 | 1.82 | 1.86 | 9125 | 38231 |  | 100 |
|  | 99  | 3105 | 12062 | 1.91 | 1.82 | 9345 | 38544 |  | 100 |
|  | 100 | 2931 | 11178 | 1.86 | 1.78 | 9316 | 37203 |  | 100 |
|  | 99  | 3017 | 11652 | 1.90 | 1.79 | 9411 | 37994 |  | 100 |
|  | 100 | 2860 | 11596 | 1.77 | 1.86 | 9749 | 35958 |  | 100 |
|  | 99  | 2857 | 11779 | 1.78 | 1.85 | 9574 | 36660 |  | 100 |
|  | 100 | 2698 | 12395 | 1.74 | 1.90 | 9197 | 37436 |  | 100 |
|  | 97  | 2971 | 11794 | 1.90 | 1.81 | 9122 | 37989 |  | 100 |
|  | 98  | 2858 | 11804 | 1.85 | 1.80 | 9086 | 38228 |  | 100 |
|  | 98  | 3013 | 11930 | 1.89 | 1.83 | 9226 | 38196 |  | 100 |
|  | 99  | 2989 | 11898 | 1.87 | 1.82 | 9266 | 38013 |  | 100 |
|  | 98  | 2973 | 12366 | 1.84 | 1.89 | 9672 | 37532 |  | 100 |
|  | 100 | 2994 | 12098 | 1.86 | 1.81 | 9487 | 38953 |  | 100 |
|  | 98  | 3133 | 11278 | 1.91 | 1.74 | 9599 | 38053 |  | 100 |
|  | 100 | 2970 | 11717 | 1.80 | 1.85 | 9719 | 36638 |  | 100 |
|  | 100 | 2997 | 11945 | 1.86 | 1.86 | 9538 | 37099 |  | 100 |
|  | 99  | 2684 | 11729 | 1.76 | 1.85 | 9221 | 37480 |  | 100 |
|  | 100 | 2864 | 11473 | 1.77 | 1.81 | 9505 | 36666 |  | 100 |
|  | 100 | 2767 | 11916 | 1.76 | 1.84 | 9351 | 37702 |  | 100 |
|  | 98  | 3044 | 11681 | 1.88 | 1.78 | 9427 | 38223 |  | 100 |
|  | 100 | 2995 | 11199 | 1.89 | 1.75 | 9326 | 37631 |  | 100 |
|  | 99  | 3175 | 11674 | 1.97 | 1.77 | 9431 | 38798 |  | 100 |
|  | 99  | 2834 | 11962 | 1.82 | 1.84 | 9365 | 37756 |  | 100 |
|  | 99  | 2916 | 11235 | 1.80 | 1.79 | 9610 | 36760 |  | 100 |
|  | 100 | 2904 | 11743 | 1.80 | 1.84 | 9586 | 37265 |  | 100 |
|  | 98  | 3102 | 11952 | 1.93 | 1.84 | 9295 | 38043 |  | 100 |
|  | 99  | 2974 | 11703 | 1.83 | 1.85 | 9511 | 36822 |  | 100 |
|  | 100 | 2886 | 11751 | 1.81 | 1.85 | 9605 | 36820 |  | 100 |
|  | 99  | 2805 | 11974 | 1.83 | 1.84 | 9082 | 38352 |  | 100 |
|  | 99  | 2904 | 13120 | 1.86 | 1.97 | 9022 | 38119 |  | 100 |
|  | 98  | 2890 | 11135 | 1.82 | 1.74 | 9350 | 37759 |  | 100 |
|  | 100 | 3071 | 11994 | 1.90 | 1.83 | 9567 | 38166 |  | 100 |
|  | 99  | 2824 | 11820 | 1.79 | 1.80 | 9345 | 37924 |  | 100 |
|  | 100 | 3092 | 11113 | 1.88 | 1.76 | 9707 | 36830 |  | 100 |
|  | 100 | 2942 | 11069 | 1.83 | 1.76 | 9599 | 37019 |  | 100 |
|  | 98  | 2806 | 11846 | 1.74 | 1.86 | 9568 | 37444 |  | 100 |
|  | 100 | 2638 | 12987 | 1.75 | 1.93 | 8990 | 38725 |  | 100 |
|  | 99  | 3030 | 11481 | 1.91 | 1.75 | 9230 | 38309 |  | 100 |
|  | 100 | 3104 | 11391 | 1.87 | 1.82 | 9716 | 36975 |  | 100 |
|  | 99  | 2922 | 11419 | 1.80 | 1.83 | 9819 | 36254 |  | 100 |
|  | 100 | 2716 | 11764 | 1.72 | 1.86 | 9636 | 36815 |  | 100 |
|  | 100 | 2801 | 12481 | 1.74 | 1.90 | 9557 | 37966 |  | 100 |
|  | 100 | 2890 | 12492 | 1.82 | 1.92 | 9402 | 37662 |  | 100 |
|  | 96  | 2839 | 11809 | 1.77 | 1.81 | 9519 | 38202 |  | 100 |
|  | 98  | 2997 | 11815 | 1.83 | 1.83 | 9676 | 37376 |  | 100 |
|  | 100 | 3008 | 11796 | 1.86 | 1.84 | 9412 | 37488 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2923 | 10935 | 1.81 | 1.73 | 9694 | 37450 |  | 100 |
|  | 99  | 3034 | 11558 | 1.95 | 1.79 | 9220 | 38075 |  | 100 |
|  | 100 | 2820 | 11419 | 1.84 | 1.77 | 9242 | 37814 |  | 100 |
|  | 100 | 2982 | 11508 | 1.84 | 1.79 | 9609 | 37274 |  | 100 |
|  | 100 | 2988 | 12017 | 1.83 | 1.89 | 9738 | 36793 |  | 100 |
|  | 99  | 2847 | 12620 | 1.77 | 1.96 | 9582 | 36926 |  | 100 |
|  | 98  | 2877 | 11600 | 1.78 | 1.85 | 9539 | 36572 |  | 100 |
|  | 99  | 2867 | 12368 | 1.78 | 1.89 | 9590 | 37790 |  | 100 |
|  | 97  | 2928 | 11157 | 1.80 | 1.74 | 9685 | 37341 |  | 100 |
|  | 98  | 2996 | 11451 | 1.81 | 1.85 | 9829 | 36325 |  | 100 |
|  | 99  | 2936 | 12150 | 1.81 | 1.88 | 9593 | 37252 |  | 100 |
|  | 99  | 2900 | 11484 | 1.81 | 1.80 | 9346 | 37044 |  | 100 |
|  | 99  | 2766 | 12443 | 1.80 | 1.85 | 9246 | 38555 |  | 100 |
|  | 100 | 3057 | 12076 | 1.91 | 1.87 | 9364 | 37934 |  | 100 |
|  | 99  | 2854 | 11500 | 1.81 | 1.78 | 9415 | 37327 |  | 100 |
|  | 100 | 2700 | 12112 | 1.75 | 1.84 | 9259 | 37722 |  | 100 |
|  | 99  | 2964 | 11256 | 1.86 | 1.76 | 9440 | 37774 |  | 100 |
|  | 97  | 3008 | 10882 | 1.88 | 1.75 | 9502 | 36766 |  | 100 |
|  | 98  | 2837 | 12455 | 1.76 | 1.95 | 9568 | 36894 |  | 100 |
|  | 98  | 2860 | 11471 | 1.78 | 1.83 | 9516 | 36764 |  | 100 |
|  | 100 | 2827 | 12429 | 1.78 | 1.92 | 9425 | 37855 |  | 100 |
|  | 100 | 2649 | 12320 | 1.72 | 1.89 | 9421 | 37656 |  | 100 |
|  | 99  | 2793 | 11770 | 1.76 | 1.88 | 9423 | 36360 |  | 100 |
|  | 99  | 2703 | 12100 | 1.74 | 1.86 | 9285 | 37599 |  | 100 |
|  | 99  | 3067 | 11537 | 1.88 | 1.77 | 9553 | 37917 |  | 100 |
|  | 100 | 2991 | 11877 | 1.82 | 1.89 | 9761 | 36299 |  | 100 |
|  | 100 | 2813 | 12263 | 1.78 | 1.89 | 9400 | 37568 |  | 100 |
|  | 99  | 2891 | 12008 | 1.81 | 1.85 | 9403 | 37526 |  | 100 |
|  | 99  | 2698 | 12062 | 1.80 | 1.82 | 9150 | 37952 |  | 100 |
|  | 100 | 2955 | 11878 | 1.84 | 1.83 | 9416 | 37815 |  | 100 |
|  | 99  | 2828 | 11155 | 1.79 | 1.75 | 9242 | 37670 |  | 100 |
|  | 99  | 2844 | 11339 | 1.76 | 1.82 | 9494 | 36574 |  | 100 |
|  | 99  | 2918 | 11565 | 1.84 | 1.84 | 9446 | 36434 |  | 100 |
|  | 97  | 2848 | 12199 | 1.80 | 1.86 | 9351 | 38160 |  | 100 |
|  | 99  | 3217 | 11747 | 1.98 | 1.80 | 9249 | 38203 |  | 100 |
|  | 99  | 2995 | 11917 | 1.86 | 1.82 | 9422 | 37903 |  | 100 |
|  | 100 | 2977 | 11657 | 1.86 | 1.79 | 9443 | 37793 |  | 100 |
|  | 100 | 3036 | 11784 | 1.86 | 1.84 | 9696 | 37214 |  | 100 |
|  | 98  | 2916 | 11458 | 1.80 | 1.83 | 9653 | 36513 |  | 100 |
|  | 100 | 2814 | 11630 | 1.77 | 1.84 | 9420 | 37046 |  | 100 |
|  | 99  | 2868 | 12160 | 1.81 | 1.85 | 9379 | 38224 |  | 100 |
|  | 98  | 3138 | 12006 | 1.95 | 1.84 | 9436 | 38474 |  | 100 |
|  | 98  | 2936 | 11060 | 1.85 | 1.74 | 9491 | 37315 |  | 100 |
|  | 100 | 2917 | 11826 | 1.83 | 1.85 | 9407 | 36797 |  | 100 |
|  | 99  | 2622 | 11865 | 1.68 | 1.84 | 9600 | 37218 |  | 100 |
|  | 99  | 3021 | 11707 | 1.83 | 1.85 | 9713 | 36462 |  | 100 |
|  | 97  | 2801 | 11430 | 1.76 | 1.82 | 9686 | 36735 |  | 100 |
|  | 99  | 2909 | 11545 | 1.82 | 1.81 | 9744 | 37317 |  | 100 |
|  | 98  | 2864 | 11841 | 1.80 | 1.86 | 9422 | 37077 |  | 100 |
|  | 99  | 2939 | 11822 | 1.86 | 1.78 | 9308 | 38534 |  | 100 |
|  | 98  | 3125 | 11788 | 1.94 | 1.79 | 9441 | 38489 |  | 100 |
|  | 98  | 2959 | 11326 | 1.81 | 1.76 | 9785 | 37745 |  | 100 |
|  | 100 | 2976 | 11277 | 1.83 | 1.76 | 9666 | 37347 |  | 100 |
|  | 100 | 2883 | 12194 | 1.78 | 1.86 | 9658 | 37289 |  | 100 |
|  | 99  | 2754 | 11326 | 1.73 | 1.83 | 9547 | 36207 |  | 100 |
|  | 98  | 2813 | 11543 | 1.75 | 1.83 | 9474 | 36933 |  | 100 |
|  | 97  | 2959 | 11547 | 1.81 | 1.82 | 9517 | 37512 |  | 100 |
|  | 98  | 2934 | 11734 | 1.89 | 1.79 | 9303 | 38147 |  | 100 |
|  | 99  | 2832 | 12036 | 1.79 | 1.88 | 9676 | 37135 |  | 100 |
|  | 99  | 2868 | 11666 | 1.76 | 1.81 | 9622 | 37901 |  | 100 |
|  | 100 | 3034 | 11884 | 1.80 | 1.86 | 9896 | 36871 |  | 100 |
|  | 100 | 2849 | 12243 | 1.75 | 1.93 | 9739 | 36347 |  | 100 |
|  | 98  | 2868 | 12543 | 1.78 | 1.92 | 9453 | 37259 |  | 100 |
|  | 100 | 2961 | 11871 | 1.83 | 1.85 | 9431 | 36726 |  | 100 |
|  | 100 | 2995 | 11315 | 1.86 | 1.75 | 9531 | 38741 |  | 100 |
|  | 98  | 3210 | 11884 | 1.91 | 1.88 | 9866 | 36601 |  | 100 |
|  | 98  | 2772 | 11524 | 1.74 | 1.82 | 9689 | 36946 |  | 100 |
|  | 99  | 2841 | 11382 | 1.77 | 1.78 | 9645 | 37268 |  | 100 |
|  | 100 | 2546 | 11519 | 1.70 | 1.82 | 9144 | 37022 |  | 100 |
|  | 99  | 2811 | 11763 | 1.76 | 1.80 | 9548 | 38068 |  | 100 |
|  | 100 | 2915 | 11401 | 1.81 | 1.79 | 9545 | 37063 |  | 100 |
|  | 99  | 2979 | 11119 | 1.88 | 1.79 | 9305 | 36161 |  | 100 |
|  | 99  | 2925 | 11562 | 1.85 | 1.86 | 9352 | 36389 |  | 100 |
|  | 99  | 2675 | 11190 | 1.76 | 1.76 | 9022 | 37269 |  | 100 |
|  | 99  | 2790 | 12008 | 1.84 | 1.85 | 9105 | 37779 |  | 100 |
|  | 100 | 2787 | 11885 | 1.81 | 1.82 | 9216 | 37793 |  | 100 |
|  | 99  | 2796 | 11512 | 1.85 | 1.83 | 8994 | 36519 |  | 100 |
|  | 100 | 2721 | 11046 | 1.74 | 1.76 | 9543 | 37319 |  | 100 |
|  | 100 | 2878 | 11614 | 1.84 | 1.84 | 9352 | 36886 |  | 100 |
|  | 100 | 2817 | 12123 | 1.87 | 1.86 | 9122 | 37513 |  | 100 |
|  | 100 | 2888 | 12362 | 1.82 | 1.90 | 9496 | 37989 |  | 100 |
|  | 98  | 2839 | 11145 | 1.80 | 1.79 | 9422 | 36222 |  | 100 |
|  | 100 | 2795 | 11666 | 1.74 | 1.79 | 9649 | 38035 |  | 100 |
|  | 100 | 2897 | 12255 | 1.77 | 1.83 | 9663 | 38519 |  | 100 |
|  | 98  | 2880 | 11833 | 1.78 | 1.79 | 9727 | 38666 |  | 100 |
|  | 98  | 2848 | 11589 | 1.79 | 1.84 | 9445 | 37002 |  | 100 |
|  | 100 | 2717 | 11367 | 1.75 | 1.78 | 9417 | 37400 |  | 100 |
|  | 100 | 2842 | 11697 | 1.79 | 1.87 | 9309 | 36293 |  | 100 |
|  | 100 | 2793 | 12191 | 1.82 | 1.90 | 9150 | 36775 |  | 100 |
|  | 100 | 2566 | 11430 | 1.70 | 1.80 | 9137 | 36721 |  | 100 |
|  | 100 | 2799 | 10941 | 1.80 | 1.74 | 9367 | 37352 |  | 100 |
|  | 99  | 2753 | 11416 | 1.75 | 1.78 | 9466 | 37764 |  | 100 |
|  | 98  | 3004 | 11497 | 1.83 | 1.78 | 9719 | 38110 |  | 100 |
|  | 100 | 2955 | 12222 | 1.86 | 1.89 | 9431 | 37491 |  | 100 |
|  | 100 | 2973 | 12331 | 1.83 | 1.89 | 9466 | 37743 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 3078 | 11925 | 1.85 | 1.83 | 9730 | 37879 | 100 |
|  | 98  | 2971 | 12649 | 1.85 | 1.97 | 9549 | 36744 | 100 |
|  | 100 | 2752 | 11954 | 1.78 | 1.87 | 9285 | 36998 | 100 |
|  | 100 | 2832 | 11196 | 1.84 | 1.78 | 9134 | 36734 | 100 |
|  | 99  | 2885 | 11103 | 1.79 | 1.79 | 9435 | 36427 | 100 |
|  | 98  | 2847 | 11432 | 1.83 | 1.81 | 9207 | 36884 | 100 |
|  | 100 | 2828 | 12062 | 1.82 | 1.87 | 9120 | 36770 | 100 |
|  | 100 | 2750 | 11648 | 1.80 | 1.85 | 9175 | 36662 | 100 |
|  | 100 | 2799 | 11424 | 1.80 | 1.81 | 9200 | 36395 | 100 |
|  | 100 | 2753 | 11331 | 1.78 | 1.81 | 9241 | 36505 | 100 |
|  | 99  | 2700 | 11478 | 1.79 | 1.81 | 9078 | 36808 | 100 |
|  | 100 | 2880 | 11326 | 1.78 | 1.81 | 9545 | 37048 | 100 |
|  | 100 | 3045 | 11396 | 1.91 | 1.80 | 9362 | 36760 | 100 |
|  | 100 | 2805 | 11349 | 1.80 | 1.84 | 9293 | 36165 | 100 |
|  | 99  | 2776 | 11817 | 1.76 | 1.84 | 9263 | 37379 | 100 |
|  | 98  | 2892 | 11491 | 1.91 | 1.80 | 9038 | 37322 | 100 |
|  | 98  | 2840 | 11679 | 1.83 | 1.84 | 9344 | 37185 | 100 |
|  | 99  | 2822 | 11204 | 1.84 | 1.78 | 9060 | 37110 | 100 |
|  | 97  | 3219 | 11756 | 1.95 | 1.87 | 9725 | 36661 | 100 |
|  | 100 | 2911 | 12030 | 1.80 | 1.89 | 9556 | 36619 | 100 |
|  | 100 | 2925 | 11768 | 1.84 | 1.89 | 9450 | 36226 | 100 |
|  | 99  | 2978 | 12508 | 1.89 | 1.93 | 9439 | 37063 | 100 |
|  | 100 | 2736 | 11654 | 1.78 | 1.84 | 9160 | 36848 | 100 |
|  | 100 | 3108 | 11844 | 1.98 | 1.87 | 9091 | 36585 | 100 |
|  | 99  | 2866 | 11740 | 1.81 | 1.89 | 9399 | 36095 | 100 |
|  | 100 | 2771 | 11285 | 1.79 | 1.84 | 9169 | 35628 | 100 |
|  | 100 | 2770 | 12075 | 1.83 | 1.87 | 9063 | 37959 | 100 |
|  | 100 | 2714 | 11759 | 1.80 | 1.84 | 8991 | 37006 | 100 |
|  | 100 | 2962 | 12315 | 1.91 | 1.90 | 9249 | 36999 | 100 |
|  | 100 | 2996 | 11774 | 1.86 | 1.88 | 9467 | 36471 | 100 |
|  | 99  | 2854 | 11731 | 1.79 | 1.87 | 9376 | 36569 | 100 |
|  | 100 | 2896 | 12181 | 1.82 | 1.92 | 9482 | 37220 | 100 |
|  | 100 | 2987 | 11226 | 1.91 | 1.82 | 9164 | 35925 | 100 |
|  | 99  | 2927 | 11603 | 1.88 | 1.84 | 9262 | 36338 | 100 |
|  | 100 | 2945 | 11091 | 1.87 | 1.75 | 9228 | 36857 | 100 |
|  | 97  | 2866 | 11878 | 1.83 | 1.86 | 9290 | 36561 | 100 |
|  | 99  | 3009 | 12303 | 1.89 | 1.94 | 9178 | 36788 | 100 |
|  | 99  | 2698 | 11915 | 1.77 | 1.88 | 9108 | 36702 | 100 |
|  | 100 | 2777 | 11447 | 1.77 | 1.83 | 9332 | 37194 | 100 |
|  | 99  | 2777 | 11565 | 1.83 | 1.80 | 9031 | 37562 | 100 |
|  | 99  | 2826 | 11735 | 1.85 | 1.85 | 8987 | 36809 | 100 |
|  | 99  | 2800 | 11222 | 1.79 | 1.79 | 9331 | 36703 | 100 |
|  | 99  | 2773 | 11604 | 1.79 | 1.86 | 9276 | 36312 | 100 |
|  | 100 | 2902 | 11648 | 1.83 | 1.88 | 9404 | 36328 | 100 |
|  | 100 | 3033 | 10905 | 1.91 | 1.76 | 9291 | 36960 | 100 |
|  | 98  | 2933 | 11465 | 1.90 | 1.83 | 9168 | 36521 | 100 |
|  | 100 | 2974 | 11765 | 1.86 | 1.85 | 9477 | 37000 | 100 |
|  | 100 | 2865 | 12122 | 1.83 | 1.93 | 9303 | 36145 | 100 |
|  | 100 | 2994 | 12742 | 1.85 | 1.98 | 9672 | 37019 | 100 |
|  | 100 | 2995 | 12747 | 1.88 | 1.92 | 9423 | 38012 | 100 |
|  | 99  | 2904 | 11828 | 1.86 | 1.83 | 9208 | 37692 | 100 |
|  | 98  | 3166 | 11980 | 1.92 | 1.83 | 9467 | 37863 | 100 |
|  | 100 | 2981 | 12766 | 1.81 | 1.93 | 9715 | 38086 | 100 |
|  | 100 | 3123 | 12711 | 1.90 | 1.90 | 9656 | 38478 | 100 |
|  | 100 | 2998 | 12327 | 1.90 | 1.87 | 9171 | 38052 | 100 |
|  | 99  | 2854 | 11832 | 1.85 | 1.83 | 9024 | 37217 | 100 |
|  | 99  | 2941 | 11523 | 1.85 | 1.85 | 9425 | 36341 | 100 |
|  | 99  | 2826 | 11489 | 1.80 | 1.84 | 9368 | 36805 | 100 |
|  | 100 | 2674 | 12227 | 1.77 | 1.91 | 8924 | 36730 | 100 |
|  | 100 | 2842 | 11156 | 1.82 | 1.79 | 9288 | 37011 | 100 |
|  | 100 | 2752 | 11347 | 1.76 | 1.79 | 9234 | 36961 | 100 |
|  | 100 | 2784 | 11898 | 1.77 | 1.81 | 9540 | 37912 | 100 |
|  | 98  | 2778 | 11823 | 1.78 | 1.84 | 9337 | 37118 | 100 |
|  | 100 | 2884 | 11557 | 1.87 | 1.83 | 9114 | 36744 | 100 |
|  | 100 | 2980 | 12193 | 1.84 | 1.92 | 9571 | 36853 | 100 |
|  | 99  | 2957 | 12048 | 1.86 | 1.90 | 9247 | 36359 | 100 |
|  | 100 | 2898 | 11590 | 1.88 | 1.82 | 9129 | 36994 | 100 |
|  | 99  | 2987 | 11678 | 1.89 | 1.82 | 9066 | 37093 | 100 |
|  | 100 | 2770 | 11760 | 1.85 | 1.84 | 8954 | 36953 | 100 |
|  | 99  | 2822 | 11199 | 1.81 | 1.77 | 9163 | 36726 | 100 |
|  | 99  | 2807 | 11079 | 1.76 | 1.78 | 9405 | 36426 | 100 |
|  | 100 | 2684 | 11660 | 1.74 | 1.82 | 9222 | 37026 | 100 |
|  | 100 | 2647 | 11384 | 1.72 | 1.82 | 9171 | 36521 | 100 |
|  | 99  | 2917 | 12223 | 1.85 | 1.93 | 9413 | 36545 | 100 |
|  | 100 | 2558 | 11974 | 1.72 | 1.88 | 9169 | 36791 | 100 |
|  | 99  | 2940 | 11375 | 1.85 | 1.82 | 9395 | 36615 | 100 |
|  | 100 | 2741 | 11541 | 1.80 | 1.80 | 9146 | 37015 | 100 |
|  | 98  | 2841 | 11007 | 1.80 | 1.79 | 9532 | 36249 | 100 |
|  | 100 | 2760 | 11492 | 1.76 | 1.85 | 9336 | 36486 | 100 |
|  | 99  | 2744 | 11239 | 1.78 | 1.80 | 9132 | 36395 | 100 |
|  | 98  | 2913 | 10960 | 1.86 | 1.75 | 9161 | 36639 | 100 |
|  | 99  | 2992 | 11562 | 1.89 | 1.84 | 9296 | 36668 | 100 |
|  | 100 | 2853 | 11517 | 1.83 | 1.81 | 9223 | 36890 | 100 |
|  | 99  | 2595 | 11489 | 1.69 | 1.83 | 9173 | 36504 | 100 |
|  | 100 | 2898 | 11808 | 1.81 | 1.88 | 9459 | 36132 | 100 |
|  | 100 | 2867 | 12676 | 1.84 | 1.95 | 9128 | 37377 | 100 |
|  | 99  | 2785 | 11772 | 1.78 | 1.87 | 9141 | 36558 | 100 |
|  | 99  | 2840 | 11937 | 1.83 | 1.87 | 9188 | 37175 | 100 |
|  | 99  | 2794 | 11954 | 1.79 | 1.93 | 9236 | 36481 | 100 |
|  | 99  | 2849 | 11889 | 1.80 | 1.87 | 9357 | 36599 | 100 |
|  | 99  | 2658 | 11882 | 1.77 | 1.86 | 9002 | 37162 | 100 |
|  | 100 | 3029 | 12435 | 1.86 | 1.92 | 9633 | 37240 | 100 |
|  | 98  | 2921 | 11658 | 1.82 | 1.90 | 9403 | 35522 | 100 |
|  | 100 | 2616 | 12322 | 1.76 | 1.92 | 9135 | 37432 | 100 |
|  | 98  | 2869 | 11397 | 1.88 | 1.82 | 9100 | 36436 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 2678 | 11597 | 1.74 | 1.81 | 9270 | 37542 | 100 |
|  | 100 | 2651 | 11112 | 1.74 | 1.81 | 9115 | 36212 | 100 |
|  | 99  | 2806 | 11373 | 1.75 | 1.78 | 9536 | 37710 | 100 |
|  | 99  | 2815 | 12040 | 1.77 | 1.81 | 9541 | 38650 | 100 |
|  | 99  | 2880 | 11561 | 1.80 | 1.78 | 9456 | 38024 | 100 |
|  | 100 | 2684 | 11522 | 1.71 | 1.79 | 9513 | 37677 | 100 |
|  | 100 | 2835 | 11231 | 1.76 | 1.78 | 9629 | 37051 | 100 |
|  | 98  | 3014 | 10893 | 1.89 | 1.73 | 9381 | 37089 | 100 |
|  | 98  | 2639 | 11378 | 1.69 | 1.82 | 9453 | 36017 | 100 |
|  | 99  | 2631 | 11587 | 1.74 | 1.81 | 9151 | 37441 | 100 |
|  | 100 | 2766 | 11449 | 1.75 | 1.81 | 9511 | 37256 | 100 |
|  | 99  | 3013 | 11231 | 1.88 | 1.81 | 9377 | 36580 | 100 |
|  | 99  | 3084 | 12919 | 1.89 | 1.96 | 9531 | 37536 | 100 |
|  | 100 | 2877 | 12001 | 1.81 | 1.86 | 9496 | 37385 | 100 |
|  | 100 | 2757 | 12014 | 1.80 | 1.92 | 9234 | 36501 | 100 |
|  | 99  | 2695 | 11989 | 1.79 | 1.86 | 8941 | 36934 | 100 |
|  | 98  | 2944 | 11103 | 1.83 | 1.80 | 9412 | 36115 | 100 |
|  | 100 | 2809 | 12031 | 1.81 | 1.89 | 9140 | 37282 | 100 |
|  | 100 | 2729 | 11245 | 1.78 | 1.81 | 9086 | 36218 | 100 |
|  | 100 | 2703 | 11253 | 1.76 | 1.77 | 9256 | 37111 | 100 |
|  | 100 | 2904 | 11961 | 1.84 | 1.91 | 9164 | 36141 | 100 |
|  | 99  | 2853 | 11521 | 1.82 | 1.85 | 9170 | 36793 | 100 |
|  | 100 | 3018 | 11601 | 1.85 | 1.86 | 9761 | 36483 | 100 |
|  | 98  | 2847 | 11275 | 1.81 | 1.81 | 9169 | 36771 | 100 |
|  | 100 | 2730 | 12069 | 1.81 | 1.90 | 9009 | 36506 | 100 |
|  | 99  | 2723 | 11751 | 1.74 | 1.83 | 9363 | 37526 | 100 |
|  | 100 | 2798 | 12130 | 1.74 | 1.85 | 9588 | 38257 | 100 |
|  | 100 | 2788 | 11212 | 1.78 | 1.78 | 9269 | 36879 | 100 |
|  | 100 | 2843 | 11480 | 1.80 | 1.77 | 9568 | 37829 | 100 |
|  | 99  | 2650 | 11077 | 1.73 | 1.76 | 9223 | 36986 | 100 |
|  | 99  | 2728 | 11157 | 1.71 | 1.84 | 9459 | 35909 | 100 |
|  | 100 | 2640 | 11275 | 1.69 | 1.80 | 9420 | 36620 | 100 |
|  | 99  | 2841 | 10941 | 1.75 | 1.70 | 9901 | 38325 | 100 |
|  | 99  | 3101 | 12362 | 1.83 | 1.87 | 9889 | 37905 | 100 |
|  | 99  | 2957 | 11851 | 1.83 | 1.79 | 9581 | 38349 | 100 |
|  | 100 | 2832 | 12159 | 1.75 | 1.82 | 9615 | 38902 | 100 |
|  | 99  | 2973 | 12080 | 1.85 | 1.87 | 9305 | 37268 | 100 |
|  | 100 | 2881 | 11799 | 1.86 | 1.83 | 9224 | 37336 | 100 |
|  | 99  | 2978 | 11359 | 1.88 | 1.86 | 9269 | 35915 | 100 |
|  | 97  | 2894 | 11532 | 1.84 | 1.83 | 9226 | 36823 | 100 |
|  | 100 | 2846 | 11209 | 1.82 | 1.79 | 9287 | 36876 | 100 |
|  | 100 | 2886 | 11696 | 1.78 | 1.79 | 9753 | 38220 | 100 |
|  | 100 | 2914 | 12057 | 1.81 | 1.81 | 9608 | 38684 | 100 |
|  | 98  | 3234 | 11756 | 1.95 | 1.81 | 9587 | 38044 | 100 |
|  | 99  | 2973 | 12452 | 1.87 | 1.91 | 9421 | 37764 | 100 |
|  | 98  | 3077 | 12626 | 1.92 | 1.90 | 9438 | 38207 | 100 |
|  | 100 | 3222 | 12583 | 1.93 | 1.88 | 9728 | 38563 | 100 |
|  | 99  | 2857 | 12288 | 1.81 | 1.85 | 9321 | 38474 | 100 |
|  | 100 | 2827 | 11535 | 1.78 | 1.83 | 9489 | 37004 | 100 |
|  | 100 | 2716 | 12072 | 1.79 | 1.87 | 9084 | 37432 | 100 |
|  | 100 | 3076 | 11187 | 1.87 | 1.82 | 9651 | 36190 | 100 |
|  | 100 | 2787 | 11297 | 1.77 | 1.83 | 9362 | 36283 | 100 |
|  | 100 | 2593 | 11546 | 1.69 | 1.80 | 9162 | 37582 | 100 |
|  | 100 | 2779 | 11196 | 1.81 | 1.78 | 9136 | 36821 | 100 |
|  | 99  | 2961 | 10918 | 1.90 | 1.76 | 9483 | 36489 | 100 |
|  | 100 | 2968 | 12414 | 1.87 | 1.88 | 9375 | 37995 | 100 |
|  | 99  | 2944 | 12466 | 1.86 | 1.91 | 9407 | 37611 | 100 |
|  | 100 | 2841 | 12851 | 1.80 | 1.98 | 9345 | 36917 | 100 |
|  | 100 | 3021 | 12101 | 1.90 | 1.88 | 9289 | 37195 | 100 |
|  | 98  | 2901 | 10985 | 1.83 | 1.78 | 9223 | 36021 | 100 |
|  | 99  | 2746 | 11128 | 1.75 | 1.77 | 9397 | 37119 | 100 |
|  | 98  | 2907 | 11317 | 1.83 | 1.80 | 9287 | 36720 | 100 |
|  | 100 | 2987 | 11561 | 1.86 | 1.80 | 9489 | 37048 | 100 |
|  | 99  | 2835 | 11321 | 1.77 | 1.77 | 9686 | 37549 | 100 |
|  | 99  | 2867 | 11329 | 1.80 | 1.81 | 9565 | 36914 | 100 |
|  | 100 | 2726 | 11443 | 1.73 | 1.73 | 9562 | 38658 | 100 |
|  | 99  | 3056 | 11949 | 1.91 | 1.85 | 9429 | 37392 | 100 |
|  | 100 | 2945 | 11818 | 1.85 | 1.89 | 9305 | 36391 | 100 |
|  | 99  | 2834 | 11129 | 1.83 | 1.80 | 9134 | 36306 | 100 |
|  | 100 | 2709 | 11791 | 1.81 | 1.86 | 8994 | 37131 | 100 |
|  | 98  | 2957 | 10954 | 1.80 | 1.73 | 9769 | 37091 | 100 |
|  | 99  | 2755 | 11292 | 1.75 | 1.78 | 9447 | 36774 | 100 |
|  | 99  | 2807 | 11262 | 1.80 | 1.76 | 9314 | 37704 | 100 |
|  | 99  | 2793 | 11988 | 1.83 | 1.87 | 9156 | 37183 | 100 |
|  | 99  | 2831 | 11433 | 1.81 | 1.82 | 9316 | 36502 | 100 |
|  | 100 | 2961 | 11784 | 1.80 | 1.88 | 9582 | 36194 | 100 |
|  | 100 | 2622 | 11314 | 1.72 | 1.80 | 9232 | 36489 | 100 |
|  | 100 | 2569 | 12158 | 1.71 | 1.89 | 9170 | 37105 | 100 |
|  | 100 | 2607 | 11347 | 1.70 | 1.82 | 9317 | 36665 | 100 |
|  | 99  | 2787 | 11720 | 1.74 | 1.83 | 9467 | 37481 | 100 |
|  | 100 | 2796 | 11544 | 1.75 | 1.79 | 9478 | 37900 | 100 |
|  | 100 | 2791 | 11427 | 1.77 | 1.78 | 9325 | 37212 | 100 |
|  | 98  | 3055 | 12096 | 1.90 | 1.90 | 9261 | 36435 | 100 |
|  | 100 | 2733 | 11231 | 1.80 | 1.79 | 9082 | 36600 | 100 |
|  | 99  | 2801 | 11430 | 1.80 | 1.81 | 9341 | 36515 | 100 |
|  | 100 | 3021 | 12291 | 1.85 | 1.85 | 9638 | 38704 | 100 |
|  | 99  | 3250 | 12114 | 1.93 | 1.89 | 9705 | 37295 | 100 |
|  | 100 | 3074 | 11626 | 1.89 | 1.88 | 9410 | 36359 | 100 |
|  | 98  | 2915 | 11438 | 1.82 | 1.85 | 9395 | 36190 | 100 |
|  | 100 | 2867 | 11675 | 1.84 | 1.89 | 9357 | 35835 | 100 |
|  | 100 | 2685 | 11802 | 1.77 | 1.88 | 9029 | 35987 | 100 |
|  | 100 | 2891 | 11969 | 1.88 | 1.85 | 9109 | 37275 | 100 |
|  | 100 | 2983 | 11501 | 1.93 | 1.82 | 9217 | 36980 | 100 |
|  | 100 | 2864 | 11062 | 1.86 | 1.82 | 9000 | 35518 | 100 |
|  | 100 | 2653 | 11856 | 1.75 | 1.88 | 8968 | 36678 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 98  | 2768 | 11048 | 1.76 | 1.79 | 9284 | 36446 | 100 |
|  | 98  | 2760 | 11543 | 1.75 | 1.79 | 9647 | 37681 | 100 |
|  | 99  | 2845 | 11379 | 1.76 | 1.84 | 9561 | 35758 | 100 |
|  | 99  | 2837 | 11729 | 1.77 | 1.85 | 9533 | 36757 | 100 |
|  | 100 | 3000 | 11331 | 1.83 | 1.76 | 9628 | 37585 | 100 |
|  | 99  | 2798 | 12399 | 1.81 | 1.96 | 9205 | 36110 | 100 |
|  | 100 | 2813 | 11473 | 1.86 | 1.78 | 9050 | 37131 | 100 |
|  | 100 | 2914 | 11067 | 1.83 | 1.81 | 9331 | 35678 | 100 |
|  | 100 | 2622 | 11537 | 1.75 | 1.83 | 8957 | 36860 | 100 |
|  | 100 | 2828 | 11658 | 1.86 | 1.86 | 9072 | 36046 | 100 |
|  | 100 | 2901 | 11757 | 1.86 | 1.83 | 9225 | 37304 | 100 |
|  | 98  | 2851 | 11794 | 1.86 | 1.84 | 9072 | 37245 | 100 |
|  | 98  | 2968 | 11328 | 1.83 | 1.83 | 9414 | 36343 | 100 |
|  | 100 | 2616 | 11416 | 1.72 | 1.82 | 9101 | 37079 | 100 |
|  | 100 | 2831 | 12244 | 1.85 | 1.89 | 8959 | 37182 | 100 |
|  | 99  | 2985 | 11294 | 1.87 | 1.81 | 9322 | 36668 | 100 |
|  | 100 | 2870 | 12211 | 1.84 | 1.92 | 9265 | 36662 | 100 |
|  | 100 | 2940 | 11488 | 1.89 | 1.79 | 9158 | 37070 | 100 |
|  | 100 | 2924 | 12238 | 1.87 | 1.86 | 9288 | 37694 | 100 |
|  | 100 | 2749 | 11245 | 1.78 | 1.79 | 9313 | 36880 | 100 |
|  | 99  | 2650 | 11951 | 1.71 | 1.87 | 9404 | 36728 | 100 |
|  | 100 | 2914 | 12368 | 1.84 | 1.86 | 9502 | 38130 | 100 |
|  | 98  | 3094 | 11649 | 1.89 | 1.84 | 9660 | 37437 | 100 |
|  | 99  | 2975 | 11249 | 1.86 | 1.75 | 9593 | 37726 | 100 |
|  | 100 | 2719 | 12241 | 1.74 | 1.89 | 9436 | 36926 | 100 |
|  | 100 | 2866 | 11757 | 1.82 | 1.85 | 9608 | 36973 | 100 |
|  | 100 | 2837 | 12064 | 1.81 | 1.85 | 9316 | 37527 | 100 |
|  | 100 | 3119 | 11375 | 1.91 | 1.73 | 9444 | 38534 | 100 |
|  | 99  | 2989 | 11814 | 1.89 | 1.84 | 9465 | 37676 | 100 |
|  | 98  | 2997 | 11863 | 1.89 | 1.85 | 9450 | 37359 | 100 |
|  | 99  | 2724 | 12580 | 1.78 | 1.92 | 9093 | 37542 | 100 |
|  | 100 | 2814 | 12602 | 1.77 | 1.92 | 9303 | 37541 | 100 |
|  | 100 | 3058 | 11677 | 1.90 | 1.78 | 9323 | 37845 | 100 |
|  | 100 | 2827 | 11804 | 1.78 | 1.86 | 9536 | 37004 | 100 |
|  | 100 | 3060 | 11184 | 1.87 | 1.78 | 9648 | 36587 | 100 |
|  | 97  | 3026 | 11284 | 1.83 | 1.83 | 9766 | 36187 | 100 |
|  | 99  | 2755 | 12111 | 1.78 | 1.81 | 9207 | 38741 | 100 |
|  | 100 | 2824 | 11821 | 1.80 | 1.79 | 9413 | 38024 | 100 |
|  | 100 | 3015 | 11875 | 1.83 | 1.84 | 9661 | 37584 | 100 |
|  | 100 | 2948 | 12101 | 1.88 | 1.85 | 9162 | 38176 | 100 |
|  | 98  | 2978 | 11619 | 1.87 | 1.82 | 9381 | 37549 | 100 |
|  | 98  | 3022 | 11832 | 1.88 | 1.84 | 9686 | 37362 | 100 |
|  | 98  | 3112 | 11964 | 1.85 | 1.88 | 9780 | 36774 | 100 |
|  | 100 | 2830 | 11660 | 1.83 | 1.83 | 9152 | 37069 | 100 |
|  | 100 | 2969 | 11463 | 1.87 | 1.79 | 9367 | 37551 | 100 |
|  | 98  | 2933 | 11489 | 1.81 | 1.77 | 9605 | 37805 | 100 |
|  | 99  | 2705 | 13043 | 1.75 | 1.97 | 9336 | 37736 | 100 |
|  | 99  | 2703 | 11673 | 1.74 | 1.81 | 9315 | 37373 | 100 |
|  | 100 | 2621 | 12318 | 1.69 | 1.90 | 9279 | 37145 | 100 |
|  | 100 | 2742 | 12553 | 1.79 | 1.87 | 9055 | 38716 | 100 |
|  | 100 | 2808 | 12300 | 1.83 | 1.85 | 9085 | 38469 | 100 |
|  | 97  | 2991 | 11573 | 1.83 | 1.82 | 9623 | 37079 | 100 |
|  | 98  | 3085 | 11734 | 1.91 | 1.83 | 9313 | 37487 | 100 |
|  | 99  | 2943 | 11187 | 1.87 | 1.76 | 9205 | 37539 | 100 |
|  | 100 | 3150 | 10855 | 1.98 | 1.72 | 9281 | 38023 | 100 |
|  | 99  | 2774 | 11387 | 1.76 | 1.78 | 9476 | 37453 | 100 |
|  | 100 | 2830 | 11554 | 1.80 | 1.84 | 9527 | 36539 | 100 |
|  | 99  | 2903 | 11554 | 1.85 | 1.79 | 9349 | 37453 | 100 |
|  | 98  | 2755 | 12052 | 1.81 | 1.83 | 9158 | 38702 | 100 |
|  | 100 | 2975 | 11395 | 1.81 | 1.76 | 9790 | 38147 | 100 |
|  | 100 | 2920 | 13064 | 1.84 | 2.00 | 9430 | 37229 | 100 |
|  | 99  | 2912 | 12160 | 1.84 | 1.85 | 9311 | 38186 | 100 |
|  | 99  | 3005 | 12096 | 1.81 | 1.85 | 9680 | 37537 | 100 |
|  | 100 | 2888 | 12394 | 1.79 | 1.93 | 9435 | 36640 | 100 |
|  | 98  | 2989 | 11586 | 1.88 | 1.82 | 9303 | 37321 | 100 |
|  | 100 | 2858 | 12715 | 1.83 | 1.93 | 9141 | 37781 | 100 |
|  | 99  | 3045 | 11530 | 1.87 | 1.81 | 9488 | 37151 | 100 |
|  | 100 | 2892 | 12079 | 1.80 | 1.90 | 9477 | 36814 | 100 |
|  | 100 | 3104 | 11110 | 1.93 | 1.72 | 9388 | 38073 | 100 |
|  | 100 | 2917 | 11911 | 1.84 | 1.84 | 9260 | 37383 | 100 |
|  | 100 | 2767 | 11874 | 1.72 | 1.85 | 9631 | 37303 | 100 |
|  | 97  | 2643 | 11645 | 1.71 | 1.81 | 9275 | 37503 | 100 |
|  | 100 | 2900 | 12069 | 1.81 | 1.84 | 9546 | 38407 | 100 |
|  | 99  | 2949 | 11493 | 1.84 | 1.83 | 9314 | 36988 | 100 |
|  | 100 | 2682 | 13215 | 1.74 | 2.00 | 9307 | 37972 | 100 |
|  | 100 | 2882 | 12051 | 1.82 | 1.85 | 9375 | 38192 | 100 |
|  | 99  | 2771 | 11497 | 1.74 | 1.82 | 9670 | 36332 | 100 |
|  | 100 | 2980 | 12435 | 1.93 | 1.92 | 9204 | 37824 | 100 |
|  | 99  | 2896 | 12475 | 1.81 | 1.88 | 9390 | 37906 | 100 |
|  | 99  | 2941 | 11814 | 1.79 | 1.85 | 9656 | 36806 | 100 |
|  | 99  | 3038 | 12132 | 1.84 | 1.85 | 9748 | 37984 | 100 |
|  | 100 | 2835 | 12113 | 1.84 | 1.83 | 9289 | 38902 | 100 |
|  | 97  | 2800 | 11730 | 1.80 | 1.81 | 9424 | 37838 | 100 |
|  | 99  | 2974 | 11602 | 1.81 | 1.83 | 9745 | 36686 | 100 |
|  | 97  | 2878 | 12252 | 1.80 | 1.92 | 9428 | 37008 | 100 |
|  | 99  | 2984 | 11830 | 1.85 | 1.79 | 9490 | 38644 | 100 |
|  | 99  | 3017 | 11772 | 1.91 | 1.82 | 9398 | 38111 | 100 |
|  | 100 | 2896 | 11833 | 1.78 | 1.84 | 9761 | 37640 | 100 |
|  | 99  | 2806 | 11766 | 1.77 | 1.85 | 9551 | 36837 | 100 |
|  | 98  | 3031 | 11198 | 1.84 | 1.80 | 9725 | 36320 | 100 |
|  | 100 | 3043 | 12062 | 1.91 | 1.83 | 9282 | 38506 | 100 |
|  | 99  | 2887 | 11571 | 1.81 | 1.78 | 9392 | 37573 | 100 |
|  | 100 | 2809 | 11823 | 1.77 | 1.86 | 9503 | 36477 | 100 |
|  | 100 | 2984 | 11790 | 1.86 | 1.84 | 9580 | 36702 | 100 |
|  | 100 | 2796 | 12149 | 1.78 | 1.86 | 9317 | 37685 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 2774 | 11848 | 1.80 | 1.84 | 9165 | 37896 | 100 |
|  | 99  | 3085 | 11102 | 1.90 | 1.78 | 9615 | 36556 | 100 |
|  | 100 | 2878 | 12047 | 1.79 | 1.91 | 9508 | 36371 | 100 |
|  | 99  | 2891 | 12097 | 1.83 | 1.87 | 9149 | 37323 | 100 |
|  | 99  | 3061 | 11399 | 1.90 | 1.83 | 9399 | 36212 | 100 |
|  | 98  | 2924 | 11736 | 1.82 | 1.85 | 9488 | 36806 | 100 |
|  | 99  | 2788 | 12411 | 1.77 | 1.92 | 9404 | 37290 | 100 |
|  | 100 | 2843 | 11679 | 1.79 | 1.84 | 9537 | 36904 | 100 |
|  | 98  | 3067 | 11014 | 1.86 | 1.75 | 9712 | 37331 | 100 |
|  | 99  | 2787 | 12082 | 1.79 | 1.87 | 9227 | 37618 | 100 |
|  | 98  | 2839 | 12057 | 1.79 | 1.85 | 9462 | 37919 | 100 |
|  | 99  | 3056 | 11582 | 1.87 | 1.82 | 9586 | 36931 | 100 |
|  | 99  | 2984 | 11946 | 1.86 | 1.82 | 9415 | 38290 | 100 |
|  | 99  | 2970 | 11387 | 1.82 | 1.79 | 9678 | 37060 | 100 |
|  | 97  | 2908 | 11212 | 1.81 | 1.78 | 9579 | 37521 | 100 |
|  | 97  | 2753 | 12195 | 1.78 | 1.88 | 9278 | 37205 | 100 |
|  | 99  | 2694 | 12296 | 1.82 | 1.89 | 8981 | 37334 | 100 |
|  | 99  | 3155 | 10894 | 1.91 | 1.76 | 9618 | 36327 | 100 |
|  | 100 | 2807 | 12063 | 1.83 | 1.87 | 9033 | 37441 | 100 |
|  | 100 | 2866 | 11883 | 1.84 | 1.81 | 9140 | 38006 | 100 |
|  | 98  | 3047 | 11566 | 1.90 | 1.80 | 9563 | 37813 | 100 |
|  | 100 | 2767 | 11051 | 1.74 | 1.76 | 9584 | 36637 | 100 |
|  | 100 | 2785 | 11211 | 1.76 | 1.78 | 9367 | 37385 | 100 |
|  | 100 | 3074 | 11602 | 1.90 | 1.78 | 9506 | 38190 | 100 |
|  | 99  | 2808 | 12395 | 1.74 | 1.90 | 9654 | 37698 | 100 |
|  | 99  | 3133 | 11424 | 1.94 | 1.76 | 9472 | 38227 | 100 |
|  | 99  | 3006 | 11844 | 1.86 | 1.81 | 9430 | 38348 | 100 |
|  | 98  | 2808 | 11643 | 1.76 | 1.84 | 9573 | 36632 | 100 |
|  | 100 | 2799 | 11645 | 1.80 | 1.83 | 9417 | 36661 | 100 |
|  | 99  | 2912 | 12003 | 1.84 | 1.84 | 9471 | 37904 | 100 |
|  | 100 | 2979 | 12070 | 1.89 | 1.87 | 9411 | 37860 | 100 |
|  | 100 | 2918 | 12318 | 1.80 | 1.90 | 9556 | 36706 | 100 |
|  | 100 | 2921 | 12119 | 1.78 | 1.89 | 9727 | 37115 | 100 |
|  | 98  | 2959 | 11730 | 1.90 | 1.82 | 9121 | 37305 | 100 |
|  | 100 | 2858 | 11219 | 1.79 | 1.74 | 9580 | 38342 | 100 |
|  | 100 | 3066 | 12377 | 1.87 | 1.88 | 9640 | 37593 | 100 |
|  | 99  | 2908 | 11643 | 1.78 | 1.84 | 9694 | 36686 | 100 |
|  | 97  | 2875 | 11921 | 1.82 | 1.83 | 9435 | 37759 | 100 |
|  | 99  | 2953 | 12199 | 1.81 | 1.88 | 9711 | 37247 | 100 |
|  | 100 | 2699 | 11755 | 1.73 | 1.84 | 9459 | 37732 | 100 |
|  | 99  | 2859 | 12134 | 1.81 | 1.88 | 9333 | 37360 | 100 |
|  | 99  | 2694 | 12093 | 1.77 | 1.84 | 9086 | 38126 | 100 |
|  | 100 | 2846 | 11703 | 1.83 | 1.80 | 9167 | 37592 | 100 |
|  | 99  | 3062 | 11627 | 1.85 | 1.77 | 9808 | 38041 | 100 |
|  | 100 | 2882 | 12718 | 1.83 | 1.91 | 9139 | 38438 | 100 |
|  | 99  | 2868 | 11524 | 1.82 | 1.81 | 9304 | 37188 | 100 |
|  | 99  | 2878 | 11180 | 1.82 | 1.76 | 9526 | 37049 | 100 |
|  | 98  | 3085 | 11271 | 1.93 | 1.76 | 9484 | 37293 | 100 |
|  | 99  | 2807 | 12046 | 1.77 | 1.81 | 9425 | 38566 | 100 |
|  | 100 | 2942 | 11442 | 1.79 | 1.79 | 9671 | 37327 | 100 |
|  | 100 | 2862 | 12410 | 1.83 | 1.90 | 9339 | 38128 | 100 |
|  | 99  | 3080 | 11377 | 1.87 | 1.78 | 9524 | 37854 | 100 |
|  | 98  | 3002 | 11716 | 1.86 | 1.82 | 9505 | 37515 | 100 |
|  | 99  | 2792 | 12113 | 1.80 | 1.83 | 9309 | 38321 | 100 |
|  | 98  | 2869 | 12371 | 1.77 | 1.93 | 9575 | 36598 | 100 |
|  | 99  | 2965 | 11840 | 1.84 | 1.84 | 9557 | 37090 | 100 |
|  | 98  | 2914 | 11764 | 1.85 | 1.83 | 9159 | 37541 | 100 |
|  | 100 | 2882 | 12034 | 1.78 | 1.85 | 9597 | 37720 | 100 |
|  | 99  | 2958 | 12302 | 1.85 | 1.87 | 9415 | 37999 | 100 |
|  | 99  | 2924 | 11720 | 1.83 | 1.81 | 9561 | 37351 | 100 |
|  | 100 | 2738 | 12200 | 1.76 | 1.91 | 9255 | 36912 | 100 |
|  | 100 | 2895 | 11588 | 1.86 | 1.82 | 9213 | 37066 | 100 |
|  | 98  | 2995 | 11196 | 1.83 | 1.76 | 9746 | 37384 | 100 |
|  | 99  | 2644 | 12001 | 1.72 | 1.86 | 9280 | 37580 | 100 |
|  | 98  | 2960 | 11170 | 1.85 | 1.75 | 9418 | 37209 | 100 |
|  | 98  | 2977 | 11245 | 1.82 | 1.76 | 9716 | 37121 | 100 |
|  | 100 | 2736 | 12511 | 1.71 | 1.90 | 9598 | 37649 | 100 |
|  | 100 | 3115 | 12658 | 1.93 | 1.91 | 9419 | 38147 | 100 |
|  | 99  | 2865 | 12535 | 1.79 | 1.95 | 9580 | 36780 | 100 |
|  | 100 | 2860 | 11998 | 1.85 | 1.81 | 9200 | 38294 | 100 |
|  | 100 | 2693 | 12096 | 1.69 | 1.89 | 9504 | 37198 | 100 |
|  | 99  | 2660 | 12487 | 1.68 | 1.92 | 9448 | 37307 | 100 |
|  | 99  | 2952 | 11265 | 1.82 | 1.76 | 9512 | 37621 | 100 |
|  | 99  | 2821 | 12173 | 1.75 | 1.88 | 9720 | 37076 | 100 |
|  | 99  | 3013 | 12315 | 1.85 | 1.89 | 9465 | 37721 | 100 |
|  | 100 | 2907 | 11560 | 1.83 | 1.77 | 9314 | 38263 | 100 |
|  | 99  | 2779 | 11613 | 1.75 | 1.81 | 9450 | 36986 | 100 |
|  | 98  | 2802 | 12377 | 1.79 | 1.89 | 9333 | 37583 | 100 |
|  | 98  | 3056 | 11990 | 1.90 | 1.84 | 9609 | 37986 | 100 |
|  | 100 | 3087 | 11926 | 1.88 | 1.87 | 9522 | 36789 | 100 |
|  | 99  | 2796 | 12201 | 1.75 | 1.92 | 9677 | 36960 | 100 |
|  | 99  | 3024 | 11891 | 1.86 | 1.85 | 9483 | 36883 | 100 |
|  | 99  | 2830 | 11263 | 1.79 | 1.79 | 9417 | 37018 | 100 |
|  | 100 | 3002 | 12134 | 1.82 | 1.90 | 9636 | 36546 | 100 |
|  | 100 | 2835 | 11959 | 1.83 | 1.89 | 9170 | 37403 | 100 |
|  | 100 | 3044 | 11601 | 1.91 | 1.78 | 9240 | 37989 | 100 |
|  | 100 | 2842 | 11996 | 1.82 | 1.87 | 9364 | 36992 | 100 |
|  | 100 | 2609 | 12085 | 1.73 | 1.86 | 9008 | 37507 | 100 |
|  | 99  | 3037 | 11388 | 1.90 | 1.74 | 9486 | 38570 | 100 |
|  | 100 | 2874 | 12394 | 1.74 | 1.87 | 9843 | 37987 | 100 |
|  | 100 | 2900 | 12005 | 1.87 | 1.81 | 9282 | 38370 | 100 |
|  | 100 | 2902 | 12509 | 1.80 | 1.89 | 9558 | 38049 | 100 |
|  | 100 | 2787 | 12149 | 1.79 | 1.84 | 9179 | 38006 | 100 |
|  | 100 | 2665 | 11576 | 1.75 | 1.81 | 9099 | 37857 | 100 |
|  | 99  | 3012 | 11391 | 1.83 | 1.80 | 9834 | 37010 | 100 |



|  |     |      |       |      |      |       |       |  |     |
|--|-----|------|-------|------|------|-------|-------|--|-----|
|  | 100 | 2761 | 11920 | 1.79 | 1.83 | 9034  | 38176 |  | 100 |
|  | 100 | 3035 | 11602 | 1.92 | 1.78 | 9376  | 38026 |  | 100 |
|  | 100 | 2902 | 11673 | 1.80 | 1.80 | 9699  | 37485 |  | 100 |
|  | 99  | 2736 | 12334 | 1.73 | 1.90 | 9586  | 37192 |  | 100 |
|  | 100 | 2636 | 12354 | 1.74 | 1.91 | 8874  | 37335 |  | 100 |
|  | 100 | 2740 | 11109 | 1.78 | 1.78 | 9279  | 36676 |  | 100 |
|  | 99  | 2895 | 11959 | 1.82 | 1.87 | 9483  | 37406 |  | 100 |
|  | 99  | 2855 | 11361 | 1.76 | 1.82 | 9641  | 36644 |  | 100 |
|  | 97  | 2846 | 11445 | 1.77 | 1.82 | 9345  | 36635 |  | 100 |
|  | 99  | 2717 | 12290 | 1.72 | 1.88 | 9467  | 37613 |  | 100 |
|  | 98  | 2844 | 11497 | 1.80 | 1.77 | 9360  | 37710 |  | 100 |
|  | 98  | 2790 | 11787 | 1.77 | 1.87 | 9413  | 36551 |  | 100 |
|  | 99  | 2642 | 12212 | 1.70 | 1.87 | 9311  | 37845 |  | 100 |
|  | 100 | 2761 | 11080 | 1.79 | 1.72 | 9212  | 38365 |  | 100 |
|  | 100 | 3097 | 11529 | 1.90 | 1.81 | 9647  | 37225 |  | 100 |
|  | 100 | 2826 | 12347 | 1.81 | 1.91 | 9287  | 37511 |  | 100 |
|  | 100 | 2935 | 11316 | 1.83 | 1.81 | 9503  | 36398 |  | 100 |
|  | 99  | 3077 | 11557 | 1.85 | 1.83 | 9579  | 36786 |  | 100 |
|  | 99  | 2593 | 11878 | 1.74 | 1.83 | 9014  | 37526 |  | 100 |
|  | 99  | 2917 | 11203 | 1.82 | 1.76 | 9412  | 37512 |  | 100 |
|  | 100 | 2831 | 11886 | 1.75 | 1.85 | 9575  | 37226 |  | 100 |
|  | 100 | 2700 | 11799 | 1.79 | 1.86 | 9071  | 37507 |  | 100 |
|  | 100 | 2854 | 11468 | 1.79 | 1.79 | 9556  | 37492 |  | 100 |
|  | 97  | 2812 | 11789 | 1.74 | 1.85 | 9790  | 36319 |  | 100 |
|  | 97  | 2899 | 11761 | 1.87 | 1.82 | 9190  | 37947 |  | 100 |
|  | 97  | 3108 | 11567 | 1.92 | 1.79 | 9465  | 38216 |  | 100 |
|  | 97  | 2857 | 11316 | 1.78 | 1.79 | 9637  | 36888 |  | 100 |
|  | 100 | 3079 | 11483 | 1.82 | 1.83 | 9849  | 36389 |  | 100 |
|  | 100 | 2928 | 11819 | 1.81 | 1.78 | 9585  | 38693 |  | 100 |
|  | 96  | 3201 | 11973 | 1.91 | 1.82 | 9767  | 38080 |  | 100 |
|  | 99  | 2922 | 11363 | 1.85 | 1.84 | 9481  | 36620 |  | 100 |
|  | 100 | 2910 | 12120 | 1.83 | 1.82 | 9407  | 38685 |  | 100 |
|  | 100 | 2926 | 11184 | 1.81 | 1.78 | 9687  | 36863 |  | 100 |
|  | 99  | 3091 | 12006 | 1.85 | 1.87 | 9781  | 37383 |  | 100 |
|  | 99  | 2751 | 12735 | 1.80 | 1.87 | 9206  | 39308 |  | 100 |
|  | 100 | 3045 | 11522 | 1.91 | 1.78 | 9330  | 38375 |  | 100 |
|  | 99  | 3220 | 12072 | 1.97 | 1.86 | 9481  | 37764 |  | 100 |
|  | 100 | 2966 | 11503 | 1.83 | 1.83 | 9486  | 36383 |  | 100 |
|  | 100 | 2746 | 11329 | 1.78 | 1.77 | 9316  | 38111 |  | 100 |
|  | 99  | 2986 | 11505 | 1.83 | 1.80 | 9677  | 37448 |  | 100 |
|  | 98  | 2973 | 11536 | 1.85 | 1.81 | 9484  | 37257 |  | 100 |
|  | 100 | 2954 | 11925 | 1.83 | 1.82 | 9529  | 37697 |  | 100 |
|  | 100 | 2982 | 11644 | 1.83 | 1.86 | 9569  | 36693 |  | 100 |
|  | 99  | 2985 | 11772 | 1.87 | 1.86 | 9450  | 36616 |  | 100 |
|  | 99  | 2851 | 11531 | 1.78 | 1.81 | 9368  | 37086 |  | 100 |
|  | 99  | 2818 | 12392 | 1.77 | 1.85 | 9323  | 38792 |  | 100 |
|  | 98  | 3176 | 11247 | 1.86 | 1.79 | 10044 | 36829 |  | 100 |
|  | 99  | 3065 | 12694 | 1.98 | 1.91 | 9128  | 38455 |  | 100 |
|  | 98  | 3071 | 11138 | 1.87 | 1.75 | 9715  | 37396 |  | 100 |
|  | 99  | 2872 | 12198 | 1.78 | 1.88 | 9497  | 38215 |  | 100 |
|  | 98  | 3119 | 11793 | 1.92 | 1.82 | 9413  | 37281 |  | 100 |
|  | 99  | 2822 | 11476 | 1.80 | 1.85 | 9336  | 36287 |  | 100 |
|  | 100 | 2855 | 11840 | 1.80 | 1.81 | 9436  | 37830 |  | 100 |
|  | 98  | 2875 | 11725 | 1.78 | 1.83 | 9552  | 37296 |  | 100 |
|  | 99  | 2935 | 11943 | 1.89 | 1.84 | 9053  | 37752 |  | 100 |
|  | 100 | 2856 | 11984 | 1.79 | 1.91 | 9332  | 35885 |  | 100 |
|  | 99  | 2922 | 11714 | 1.89 | 1.80 | 9168  | 38202 |  | 100 |
|  | 100 | 2869 | 12097 | 1.79 | 1.89 | 9500  | 36895 |  | 100 |
|  | 99  | 2777 | 12882 | 1.78 | 1.91 | 9309  | 38585 |  | 100 |
|  | 99  | 2922 | 12341 | 1.84 | 1.83 | 9436  | 39467 |  | 100 |
|  | 100 | 2922 | 11405 | 1.81 | 1.82 | 9598  | 36400 |  | 100 |
|  | 99  | 3067 | 12103 | 1.89 | 1.84 | 9561  | 37821 |  | 100 |
|  | 99  | 2897 | 12749 | 1.77 | 1.98 | 9903  | 36833 |  | 100 |
|  | 99  | 3064 | 11711 | 1.92 | 1.79 | 9230  | 38424 |  | 100 |
|  | 99  | 2778 | 12060 | 1.75 | 1.88 | 9382  | 37013 |  | 100 |
|  | 100 | 2773 | 11652 | 1.79 | 1.78 | 9157  | 37955 |  | 100 |
|  | 100 | 2793 | 12114 | 1.78 | 1.89 | 9292  | 36538 |  | 100 |
|  | 99  | 2922 | 11590 | 1.82 | 1.88 | 9327  | 35372 |  | 100 |
|  | 100 | 2664 | 11511 | 1.80 | 1.81 | 8895  | 37101 |  | 100 |
|  | 100 | 2815 | 11085 | 1.83 | 1.78 | 9277  | 36912 |  | 100 |
|  | 100 | 2753 | 11173 | 1.74 | 1.76 | 9570  | 37498 |  | 100 |
|  | 99  | 2783 | 11544 | 1.76 | 1.79 | 9408  | 37827 |  | 100 |
|  | 99  | 2796 | 12751 | 1.79 | 1.89 | 9081  | 38695 |  | 100 |
|  | 99  | 3179 | 11816 | 1.94 | 1.83 | 9624  | 37310 |  | 100 |
|  | 100 | 2633 | 12103 | 1.72 | 1.87 | 9279  | 37288 |  | 100 |
|  | 99  | 3068 | 11855 | 1.90 | 1.79 | 9423  | 38457 |  | 100 |
|  | 99  | 3122 | 11316 | 1.89 | 1.77 | 9712  | 37331 |  | 100 |
|  | 100 | 2852 | 12299 | 1.82 | 1.87 | 9150  | 37874 |  | 100 |
|  | 100 | 2777 | 11315 | 1.79 | 1.82 | 9209  | 36777 |  | 100 |
|  | 100 | 2762 | 11844 | 1.77 | 1.85 | 9312  | 36693 |  | 100 |
|  | 99  | 2966 | 11599 | 1.93 | 1.80 | 8975  | 38139 |  | 100 |
|  | 100 | 2681 | 11760 | 1.73 | 1.81 | 9422  | 37616 |  | 100 |
|  | 97  | 3040 | 10420 | 1.87 | 1.70 | 9415  | 36298 |  | 100 |
|  | 100 | 2667 | 11831 | 1.71 | 1.86 | 9326  | 37145 |  | 100 |
|  | 99  | 2879 | 11839 | 1.77 | 1.82 | 9700  | 37586 |  | 100 |
|  | 99  | 2904 | 11777 | 1.81 | 1.82 | 9377  | 37830 |  | 100 |
|  | 99  | 2954 | 12362 | 1.85 | 1.88 | 9444  | 37641 |  | 100 |
|  | 98  | 2911 | 12620 | 1.83 | 1.92 | 9424  | 37707 |  | 100 |
|  | 100 | 2622 | 12613 | 1.72 | 1.92 | 9215  | 38031 |  | 100 |
|  | 99  | 2661 | 11228 | 1.72 | 1.80 | 9282  | 36724 |  | 100 |
|  | 100 | 2620 | 12049 | 1.74 | 1.89 | 9015  | 37099 |  | 100 |
|  | 100 | 2983 | 11036 | 1.86 | 1.73 | 9324  | 37097 |  | 100 |
|  | 100 | 2681 | 11510 | 1.71 | 1.79 | 9550  | 37647 |  | 100 |
|  | 99  | 2702 | 11569 | 1.72 | 1.80 | 9436  | 37365 |  | 100 |
|  | 98  | 2973 | 11432 | 1.86 | 1.80 | 9453  | 37099 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2734 | 11796 | 1.77 | 1.87 | 9397 | 36452 |  | 100 |
|  | 100 | 2693 | 12537 | 1.76 | 1.94 | 9101 | 37092 |  | 100 |
|  | 100 | 2975 | 11638 | 1.87 | 1.85 | 9299 | 36986 |  | 100 |
|  | 100 | 2730 | 12018 | 1.73 | 1.85 | 9418 | 37947 |  | 100 |
|  | 100 | 2835 | 11710 | 1.79 | 1.86 | 9480 | 36641 |  | 100 |
|  | 100 | 2967 | 11841 | 1.90 | 1.85 | 9121 | 37452 |  | 100 |
|  | 99  | 2757 | 11628 | 1.79 | 1.82 | 9182 | 36951 |  | 100 |
|  | 100 | 2870 | 11958 | 1.85 | 1.85 | 9211 | 37523 |  | 100 |
|  | 99  | 2783 | 11750 | 1.80 | 1.82 | 9099 | 37815 |  | 100 |
|  | 100 | 2831 | 11842 | 1.84 | 1.85 | 9082 | 37053 |  | 100 |
|  | 99  | 2873 | 10799 | 1.83 | 1.76 | 9195 | 36510 |  | 100 |
|  | 100 | 2790 | 11879 | 1.80 | 1.84 | 9196 | 37392 |  | 100 |
|  | 100 | 2809 | 10950 | 1.77 | 1.79 | 9665 | 36361 |  | 100 |
|  | 99  | 2692 | 11744 | 1.69 | 1.81 | 9517 | 37897 |  | 100 |
|  | 100 | 2599 | 12111 | 1.73 | 1.86 | 9135 | 37945 |  | 100 |
|  | 99  | 2970 | 11374 | 1.84 | 1.75 | 9660 | 38570 |  | 100 |
|  | 100 | 2853 | 12658 | 1.74 | 1.91 | 9818 | 38147 |  | 100 |
|  | 100 | 2923 | 12032 | 1.80 | 1.82 | 9627 | 38279 |  | 100 |
|  | 100 | 2941 | 11924 | 1.79 | 1.83 | 9725 | 37663 |  | 100 |
|  | 100 | 2848 | 12354 | 1.75 | 1.89 | 9631 | 37177 |  | 100 |
|  | 100 | 2562 | 11594 | 1.69 | 1.87 | 9160 | 36179 |  | 100 |
|  | 99  | 2885 | 11467 | 1.83 | 1.80 | 9285 | 37120 |  | 100 |
|  | 100 | 2938 | 11653 | 1.82 | 1.83 | 9381 | 37173 |  | 100 |
|  | 99  | 3008 | 12078 | 1.83 | 1.82 | 9627 | 38123 |  | 100 |
|  | 100 | 3057 | 11431 | 1.90 | 1.76 | 9491 | 38073 |  | 100 |
|  | 100 | 3006 | 12245 | 1.86 | 1.90 | 9467 | 36778 |  | 100 |
|  | 100 | 2879 | 12109 | 1.86 | 1.88 | 9281 | 37084 |  | 100 |
|  | 99  | 2844 | 11063 | 1.79 | 1.78 | 9617 | 36251 |  | 100 |
|  | 97  | 2863 | 10971 | 1.80 | 1.77 | 9425 | 36122 |  | 100 |
|  | 100 | 2638 | 11965 | 1.73 | 1.85 | 9165 | 37319 |  | 100 |
|  | 99  | 2970 | 11372 | 1.86 | 1.79 | 9458 | 37085 |  | 100 |
|  | 100 | 2840 | 11856 | 1.82 | 1.92 | 9421 | 35703 |  | 100 |
|  | 99  | 3015 | 11832 | 1.89 | 1.83 | 9275 | 37460 |  | 100 |
|  | 100 | 2907 | 11985 | 1.81 | 1.88 | 9527 | 37212 |  | 100 |
|  | 100 | 2703 | 11976 | 1.72 | 1.87 | 9329 | 37372 |  | 100 |
|  | 97  | 2977 | 11803 | 1.85 | 1.82 | 9452 | 38213 |  | 100 |
|  | 99  | 2924 | 11240 | 1.79 | 1.77 | 9651 | 36978 |  | 100 |
|  | 99  | 2867 | 11848 | 1.83 | 1.84 | 9249 | 37615 |  | 100 |
|  | 99  | 3026 | 11307 | 1.89 | 1.79 | 9544 | 37084 |  | 100 |
|  | 100 | 2780 | 11528 | 1.82 | 1.82 | 9149 | 37472 |  | 100 |
|  | 99  | 2673 | 11709 | 1.76 | 1.84 | 9267 | 36927 |  | 100 |
|  | 100 | 2711 | 11649 | 1.76 | 1.84 | 9295 | 36755 |  | 100 |
|  | 100 | 2881 | 11762 | 1.79 | 1.81 | 9468 | 37888 |  | 100 |
|  | 99  | 2739 | 12330 | 1.80 | 1.90 | 9112 | 37332 |  | 100 |
|  | 99  | 2879 | 11469 | 1.82 | 1.82 | 9390 | 37171 |  | 100 |
|  | 99  | 2921 | 11078 | 1.84 | 1.75 | 9446 | 36958 |  | 100 |
|  | 99  | 2971 | 11564 | 1.83 | 1.80 | 9701 | 37346 |  | 100 |
|  | 99  | 2884 | 12359 | 1.78 | 1.86 | 9487 | 38572 |  | 100 |
|  | 99  | 3033 | 11648 | 1.85 | 1.78 | 9793 | 37870 |  | 100 |
|  | 99  | 2898 | 12542 | 1.77 | 1.91 | 9831 | 37508 |  | 100 |
|  | 100 | 2829 | 11991 | 1.80 | 1.90 | 9402 | 36776 |  | 100 |
|  | 98  | 3024 | 11784 | 1.88 | 1.86 | 9486 | 36788 |  | 100 |
|  | 98  | 2748 | 11912 | 1.77 | 1.88 | 9237 | 36461 |  | 100 |
|  | 99  | 3137 | 10855 | 1.94 | 1.70 | 9485 | 37817 |  | 100 |
|  | 98  | 2950 | 11938 | 1.84 | 1.85 | 9485 | 37520 |  | 100 |
|  | 100 | 2930 | 11657 | 1.86 | 1.80 | 9122 | 37804 |  | 100 |
|  | 100 | 2840 | 11310 | 1.81 | 1.79 | 9434 | 36803 |  | 100 |
|  | 100 | 2990 | 11467 | 1.83 | 1.78 | 9600 | 38060 |  | 100 |
|  | 99  | 3053 | 11551 | 1.88 | 1.78 | 9484 | 37855 |  | 100 |
|  | 99  | 2892 | 11909 | 1.79 | 1.86 | 9582 | 37544 |  | 100 |
|  | 100 | 3007 | 11673 | 1.83 | 1.80 | 9718 | 37484 |  | 100 |
|  | 100 | 3151 | 12407 | 1.89 | 1.86 | 9724 | 38167 |  | 100 |
|  | 98  | 3021 | 12223 | 1.90 | 1.90 | 9377 | 37112 |  | 100 |
|  | 98  | 2873 | 11927 | 1.79 | 1.85 | 9444 | 36975 |  | 100 |
|  | 100 | 2741 | 11856 | 1.76 | 1.86 | 9405 | 37225 |  | 100 |
|  | 100 | 2806 | 11713 | 1.79 | 1.87 | 9188 | 36405 |  | 100 |
|  | 99  | 2750 | 11211 | 1.78 | 1.79 | 9292 | 36966 |  | 100 |
|  | 100 | 3035 | 10735 | 1.89 | 1.70 | 9522 | 37827 |  | 100 |
|  | 100 | 3005 | 11782 | 1.81 | 1.85 | 9727 | 37088 |  | 100 |
|  | 99  | 2946 | 11411 | 1.85 | 1.78 | 9349 | 37663 |  | 100 |
|  | 100 | 3077 | 11563 | 1.88 | 1.80 | 9650 | 37132 |  | 100 |
|  | 99  | 3078 | 12106 | 1.88 | 1.84 | 9635 | 38094 |  | 100 |
|  | 100 | 2747 | 11954 | 1.80 | 1.91 | 9290 | 36525 |  | 100 |
|  | 99  | 2893 | 12191 | 1.82 | 1.91 | 9398 | 36625 |  | 100 |
|  | 100 | 3117 | 12376 | 1.93 | 1.94 | 9560 | 36766 |  | 100 |
|  | 100 | 2750 | 11128 | 1.78 | 1.79 | 9298 | 36905 |  | 100 |
|  | 99  | 2798 | 11106 | 1.77 | 1.78 | 9475 | 37277 |  | 100 |
|  | 99  | 2994 | 11079 | 1.85 | 1.75 | 9517 | 37189 |  | 100 |
|  | 100 | 2716 | 11738 | 1.77 | 1.83 | 9157 | 37566 |  | 100 |
|  | 99  | 3157 | 11160 | 1.91 | 1.75 | 9744 | 37618 |  | 100 |
|  | 100 | 2826 | 12633 | 1.80 | 1.91 | 9292 | 38246 |  | 100 |
|  | 100 | 2934 | 11766 | 1.85 | 1.84 | 9243 | 36810 |  | 100 |
|  | 100 | 2740 | 11865 | 1.75 | 1.83 | 9308 | 37808 |  | 100 |
|  | 100 | 2768 | 11535 | 1.77 | 1.84 | 9541 | 36184 |  | 100 |
|  | 100 | 2889 | 11116 | 1.81 | 1.73 | 9508 | 37824 |  | 100 |
|  | 100 | 2905 | 11261 | 1.81 | 1.81 | 9482 | 36694 |  | 100 |
|  | 100 | 2645 | 11168 | 1.71 | 1.80 | 9235 | 36589 |  | 100 |
|  | 100 | 3068 | 11288 | 1.89 | 1.77 | 9620 | 37383 |  | 100 |
|  | 100 | 3080 | 12065 | 1.87 | 1.86 | 9689 | 37885 |  | 100 |
|  | 100 | 3058 | 11706 | 1.85 | 1.82 | 9726 | 37575 |  | 100 |
|  | 100 | 3010 | 11761 | 1.89 | 1.82 | 9517 | 37987 |  | 100 |
|  | 98  | 3281 | 11495 | 1.96 | 1.79 | 9821 | 36792 |  | 100 |
|  | 99  | 2828 | 12216 | 1.79 | 1.85 | 9393 | 37971 |  | 100 |
|  | 99  | 3167 | 11814 | 1.91 | 1.83 | 9594 | 37652 |  | 100 |
|  | 100 | 2870 | 11633 | 1.83 | 1.85 | 9286 | 36352 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2620 | 11957 | 1.73 | 1.85 | 9274 | 37136 |  | 100 |
|  | 100 | 3032 | 11895 | 1.83 | 1.86 | 9681 | 36671 |  | 100 |
|  | 100 | 2729 | 12216 | 1.72 | 1.87 | 9574 | 37664 |  | 100 |
|  | 100 | 2888 | 11383 | 1.81 | 1.75 | 9502 | 38362 |  | 100 |
|  | 100 | 3048 | 11815 | 1.85 | 1.82 | 9810 | 37822 |  | 100 |
|  | 99  | 2778 | 12145 | 1.75 | 1.84 | 9583 | 37992 |  | 100 |
|  | 100 | 2855 | 11347 | 1.84 | 1.78 | 9248 | 36924 |  | 100 |
|  | 100 | 2901 | 11876 | 1.82 | 1.84 | 9413 | 37529 |  | 100 |
|  | 98  | 2974 | 11140 | 1.82 | 1.73 | 9772 | 38261 |  | 100 |
|  | 100 | 3173 | 11860 | 1.89 | 1.82 | 9817 | 37806 |  | 100 |
|  | 100 | 2882 | 12739 | 1.78 | 1.95 | 9650 | 37885 |  | 100 |
|  | 98  | 2925 | 11474 | 1.88 | 1.81 | 9079 | 36704 |  | 100 |
|  | 100 | 2697 | 11153 | 1.73 | 1.84 | 9276 | 35925 |  | 100 |
|  | 100 | 2692 | 11822 | 1.79 | 1.86 | 9146 | 37344 |  | 100 |
|  | 99  | 2757 | 11802 | 1.75 | 1.87 | 9386 | 36887 |  | 100 |
|  | 100 | 2851 | 11987 | 1.85 | 1.89 | 9118 | 37075 |  | 100 |
|  | 99  | 2861 | 11064 | 1.80 | 1.75 | 9362 | 37434 |  | 100 |
|  | 100 | 2802 | 12271 | 1.75 | 1.89 | 9585 | 37299 |  | 100 |
|  | 99  | 3031 | 11371 | 1.88 | 1.78 | 9474 | 37886 |  | 100 |
|  | 99  | 2947 | 11677 | 1.82 | 1.80 | 9717 | 37863 |  | 100 |
|  | 99  | 2784 | 11958 | 1.75 | 1.82 | 9509 | 38064 |  | 100 |
|  | 99  | 2908 | 11697 | 1.81 | 1.80 | 9586 | 38040 |  | 100 |
|  | 100 | 2597 | 12470 | 1.68 | 1.86 | 9407 | 38489 |  | 100 |
|  | 99  | 2981 | 12057 | 1.84 | 1.87 | 9676 | 37421 |  | 100 |
|  | 100 | 2721 | 11601 | 1.77 | 1.83 | 9383 | 36816 |  | 100 |
|  | 100 | 2928 | 11114 | 1.84 | 1.72 | 9408 | 37993 |  | 100 |
|  | 99  | 2922 | 11988 | 1.80 | 1.88 | 9413 | 36833 |  | 100 |
|  | 99  | 2818 | 11583 | 1.78 | 1.77 | 9560 | 38634 |  | 100 |
|  | 99  | 2781 | 11096 | 1.80 | 1.75 | 9269 | 37411 |  | 100 |
|  | 100 | 2695 | 11463 | 1.69 | 1.82 | 9493 | 36578 |  | 100 |
|  | 100 | 2947 | 11252 | 1.82 | 1.75 | 9634 | 38028 |  | 100 |
|  | 100 | 2903 | 11333 | 1.81 | 1.77 | 9763 | 37575 |  | 100 |
|  | 99  | 3197 | 11482 | 1.97 | 1.80 | 9439 | 37319 |  | 100 |
|  | 100 | 2765 | 11847 | 1.82 | 1.88 | 8978 | 36435 |  | 100 |
|  | 99  | 2676 | 12273 | 1.71 | 1.88 | 9394 | 37520 |  | 100 |
|  | 97  | 2861 | 10763 | 1.80 | 1.75 | 9429 | 35830 |  | 100 |
|  | 100 | 2580 | 11697 | 1.71 | 1.81 | 9350 | 37765 |  | 100 |
|  | 99  | 2760 | 11016 | 1.79 | 1.77 | 9364 | 36715 |  | 100 |
|  | 100 | 2952 | 11706 | 1.83 | 1.84 | 9596 | 36727 |  | 100 |
|  | 100 | 2851 | 12100 | 1.77 | 1.83 | 9816 | 38098 |  | 100 |
|  | 100 | 2693 | 12268 | 1.73 | 1.84 | 9292 | 38866 |  | 100 |
|  | 99  | 2963 | 11260 | 1.90 | 1.76 | 9237 | 37752 |  | 100 |
|  | 100 | 2789 | 12042 | 1.75 | 1.82 | 9439 | 38589 |  | 100 |
|  | 100 | 2991 | 11478 | 1.87 | 1.83 | 9383 | 35990 |  | 100 |
|  | 99  | 2888 | 11000 | 1.83 | 1.75 | 9187 | 36901 |  | 100 |
|  | 98  | 2946 | 11257 | 1.82 | 1.79 | 9503 | 36412 |  | 100 |
|  | 100 | 2781 | 12397 | 1.79 | 1.86 | 9337 | 38789 |  | 100 |
|  | 100 | 2817 | 11826 | 1.77 | 1.80 | 9589 | 38196 |  | 100 |
|  | 99  | 3046 | 11458 | 1.83 | 1.81 | 9679 | 36826 |  | 100 |
|  | 99  | 2968 | 10766 | 1.87 | 1.76 | 9420 | 36121 |  | 100 |
|  | 98  | 2893 | 12595 | 1.86 | 1.96 | 9154 | 36991 |  | 100 |
|  | 99  | 3063 | 11750 | 1.85 | 1.87 | 9629 | 37107 |  | 100 |
|  | 98  | 2999 | 12001 | 1.87 | 1.88 | 9487 | 37254 |  | 100 |
|  | 99  | 2909 | 12365 | 1.83 | 1.91 | 9367 | 37585 |  | 100 |
|  | 98  | 2911 | 12082 | 1.80 | 1.88 | 9549 | 37417 |  | 100 |
|  | 100 | 2722 | 11669 | 1.77 | 1.80 | 9163 | 37397 |  | 100 |
|  | 100 | 2900 | 11013 | 1.80 | 1.74 | 9548 | 37611 |  | 100 |
|  | 100 | 2720 | 11294 | 1.74 | 1.77 | 9495 | 37758 |  | 100 |
|  | 99  | 2692 | 11986 | 1.74 | 1.83 | 9306 | 38017 |  | 100 |
|  | 99  | 2882 | 11557 | 1.80 | 1.78 | 9521 | 37841 |  | 100 |
|  | 100 | 2817 | 11780 | 1.75 | 1.83 | 9553 | 37426 |  | 100 |
|  | 100 | 2933 | 11617 | 1.87 | 1.88 | 9189 | 36035 |  | 100 |
|  | 100 | 2815 | 11114 | 1.76 | 1.77 | 9651 | 36428 |  | 100 |
|  | 100 | 2624 | 11473 | 1.75 | 1.77 | 8927 | 38113 |  | 100 |
|  | 99  | 3081 | 11138 | 1.92 | 1.75 | 9575 | 37151 |  | 100 |
|  | 99  | 2860 | 11736 | 1.79 | 1.83 | 9540 | 37367 |  | 100 |
|  | 99  | 3018 | 12235 | 1.88 | 1.85 | 9328 | 38691 |  | 100 |
|  | 99  | 2926 | 12275 | 1.78 | 1.91 | 9851 | 37250 |  | 100 |
|  | 100 | 2956 | 12800 | 1.82 | 1.92 | 9515 | 38527 |  | 100 |
|  | 100 | 2980 | 12383 | 1.82 | 1.86 | 9706 | 38612 |  | 100 |
|  | 99  | 3141 | 11494 | 1.86 | 1.81 | 9811 | 37060 |  | 100 |
|  | 100 | 3098 | 12006 | 1.93 | 1.91 | 9298 | 37153 |  | 100 |
|  | 99  | 2881 | 11907 | 1.80 | 1.85 | 9458 | 36837 |  | 100 |
|  | 99  | 2744 | 12240 | 1.78 | 1.88 | 9239 | 37487 |  | 100 |
|  | 99  | 2826 | 11455 | 1.83 | 1.80 | 9341 | 36904 |  | 100 |
|  | 99  | 2742 | 12230 | 1.71 | 1.88 | 9631 | 37633 |  | 100 |
|  | 99  | 3200 | 11290 | 1.94 | 1.73 | 9555 | 38036 |  | 100 |
|  | 100 | 2844 | 11499 | 1.75 | 1.81 | 9808 | 37435 |  | 100 |
|  | 100 | 2933 | 12099 | 1.81 | 1.81 | 9632 | 38559 |  | 100 |
|  | 99  | 2943 | 11262 | 1.76 | 1.75 | 9970 | 37684 |  | 100 |
|  | 99  | 2829 | 11740 | 1.78 | 1.78 | 9451 | 38343 |  | 100 |
|  | 100 | 3086 | 11716 | 1.85 | 1.82 | 9855 | 37522 |  | 100 |
|  | 99  | 2898 | 12257 | 1.81 | 1.85 | 9440 | 38731 |  | 100 |
|  | 100 | 2910 | 12779 | 1.80 | 1.93 | 9598 | 37980 |  | 100 |
|  | 98  | 2910 | 11335 | 1.82 | 1.81 | 9439 | 36384 |  | 100 |
|  | 99  | 2698 | 11821 | 1.74 | 1.87 | 9358 | 37019 |  | 100 |
|  | 99  | 3109 | 11043 | 1.92 | 1.74 | 9491 | 37615 |  | 100 |
|  | 100 | 2854 | 11641 | 1.78 | 1.80 | 9478 | 37144 |  | 100 |
|  | 100 | 2692 | 11938 | 1.74 | 1.82 | 9351 | 37960 |  | 100 |
|  | 100 | 3048 | 11324 | 1.84 | 1.79 | 9750 | 37257 |  | 100 |
|  | 99  | 3049 | 11383 | 1.90 | 1.79 | 9442 | 38182 |  | 100 |
|  | 99  | 2884 | 12087 | 1.81 | 1.87 | 9511 | 37121 |  | 100 |
|  | 100 | 2658 | 12085 | 1.74 | 1.88 | 9080 | 36850 |  | 100 |
|  | 99  | 3076 | 11156 | 1.91 | 1.78 | 9362 | 36437 |  | 100 |
|  | 99  | 2854 | 11877 | 1.80 | 1.88 | 9356 | 36330 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 2847 | 11701 | 1.79 | 1.81 | 9482 | 37645 | 100 |
|  | 100 | 2854 | 11472 | 1.77 | 1.80 | 9524 | 37388 | 100 |
|  | 100 | 2701 | 11283 | 1.74 | 1.78 | 9332 | 37216 | 100 |
|  | 99  | 2851 | 11478 | 1.79 | 1.78 | 9586 | 37693 | 100 |
|  | 99  | 2764 | 11877 | 1.78 | 1.79 | 9279 | 38961 | 100 |
|  | 99  | 2940 | 11342 | 1.86 | 1.75 | 9522 | 37955 | 100 |
|  | 100 | 2880 | 12132 | 1.79 | 1.88 | 9714 | 37345 | 100 |
|  | 100 | 2804 | 12065 | 1.77 | 1.86 | 9400 | 37842 | 100 |
|  | 100 | 3055 | 12139 | 1.87 | 1.86 | 9553 | 38175 | 100 |
|  | 100 | 2733 | 12612 | 1.76 | 1.88 | 9281 | 38675 | 100 |
|  | 99  | 2782 | 11716 | 1.78 | 1.86 | 9229 | 36446 | 100 |
|  | 99  | 3031 | 11418 | 1.87 | 1.84 | 9666 | 36437 | 100 |
|  | 100 | 2942 | 11880 | 1.86 | 1.84 | 9393 | 37702 | 100 |
|  | 100 | 2953 | 11097 | 1.82 | 1.79 | 9557 | 36445 | 100 |
|  | 100 | 2638 | 12213 | 1.74 | 1.86 | 9092 | 38472 | 100 |
|  | 100 | 2844 | 11163 | 1.80 | 1.77 | 9461 | 36922 | 100 |
|  | 99  | 2769 | 11728 | 1.73 | 1.84 | 9501 | 37528 | 100 |
|  | 100 | 2885 | 11161 | 1.82 | 1.79 | 9541 | 36949 | 100 |
|  | 100 | 2850 | 11826 | 1.79 | 1.82 | 9537 | 37761 | 100 |
|  | 98  | 2957 | 11685 | 1.84 | 1.80 | 9449 | 37897 | 100 |
|  | 100 | 3093 | 11508 | 1.94 | 1.80 | 9510 | 37470 | 100 |
|  | 99  | 3023 | 12332 | 1.91 | 1.89 | 9199 | 37705 | 100 |
|  | 98  | 2683 | 11515 | 1.71 | 1.82 | 9388 | 36510 | 100 |
|  | 99  | 2849 | 11834 | 1.81 | 1.78 | 9414 | 38476 | 100 |
|  | 98  | 2822 | 11651 | 1.77 | 1.85 | 9508 | 36861 | 100 |
|  | 99  | 2740 | 12483 | 1.73 | 1.88 | 9288 | 38088 | 100 |
|  | 99  | 2885 | 11662 | 1.82 | 1.80 | 9323 | 37791 | 100 |
|  | 97  | 2833 | 11315 | 1.79 | 1.80 | 9159 | 36667 | 100 |
|  | 98  | 3076 | 12023 | 1.87 | 1.89 | 9860 | 36931 | 100 |
|  | 98  | 2858 | 11736 | 1.86 | 1.79 | 9041 | 38276 | 100 |
|  | 98  | 2838 | 11276 | 1.78 | 1.80 | 9434 | 36086 | 100 |
|  | 99  | 2896 | 12028 | 1.82 | 1.81 | 9495 | 38698 | 100 |
|  | 99  | 3104 | 11699 | 1.87 | 1.83 | 9793 | 37416 | 100 |
|  | 99  | 2917 | 12113 | 1.82 | 1.86 | 9455 | 37637 | 100 |
|  | 99  | 3030 | 11631 | 1.84 | 1.81 | 9604 | 37354 | 100 |
|  | 100 | 2931 | 11913 | 1.88 | 1.82 | 9208 | 37985 | 100 |
|  | 100 | 2914 | 10987 | 1.81 | 1.78 | 9437 | 36150 | 100 |
|  | 100 | 2810 | 12147 | 1.75 | 1.88 | 9456 | 37792 | 100 |
|  | 100 | 2878 | 11654 | 1.82 | 1.79 | 9503 | 38058 | 100 |
|  | 100 | 3219 | 11625 | 1.96 | 1.82 | 9459 | 36709 | 100 |
|  | 100 | 2741 | 12065 | 1.74 | 1.84 | 9313 | 38137 | 100 |
|  | 99  | 3063 | 11575 | 1.89 | 1.77 | 9564 | 38189 | 100 |
|  | 100 | 2730 | 11896 | 1.73 | 1.86 | 9443 | 36723 | 100 |
|  | 99  | 2870 | 11388 | 1.81 | 1.82 | 9276 | 36706 | 100 |
|  | 100 | 2991 | 11589 | 1.88 | 1.79 | 9316 | 37904 | 100 |
|  | 98  | 2988 | 12088 | 1.83 | 1.84 | 9639 | 38121 | 100 |
|  | 99  | 3036 | 12068 | 1.87 | 1.88 | 9406 | 37144 | 100 |
|  | 99  | 2934 | 11816 | 1.82 | 1.89 | 9500 | 36395 | 100 |
|  | 99  | 2786 | 11582 | 1.82 | 1.84 | 8981 | 36961 | 100 |
|  | 100 | 2897 | 11553 | 1.81 | 1.82 | 9523 | 37000 | 100 |
|  | 98  | 2985 | 11587 | 1.92 | 1.82 | 9212 | 37204 | 100 |
|  | 98  | 2906 | 11404 | 1.81 | 1.79 | 9483 | 37105 | 100 |
|  | 98  | 2959 | 11516 | 1.87 | 1.80 | 9471 | 38018 | 100 |
|  | 100 | 2894 | 12314 | 1.80 | 1.81 | 9585 | 39014 | 100 |
|  | 99  | 2839 | 12604 | 1.78 | 1.93 | 9507 | 37702 | 100 |
|  | 100 | 2977 | 11928 | 1.89 | 1.85 | 9371 | 37406 | 100 |
|  | 100 | 2902 | 11967 | 1.88 | 1.86 | 9227 | 37163 | 100 |
|  | 98  | 2874 | 11774 | 1.82 | 1.84 | 9268 | 37171 | 100 |
|  | 99  | 2709 | 11353 | 1.74 | 1.79 | 9313 | 37494 | 100 |
|  | 99  | 3084 | 11982 | 1.88 | 1.86 | 9697 | 37464 | 100 |
|  | 98  | 2955 | 11427 | 1.82 | 1.80 | 9515 | 37705 | 100 |
|  | 98  | 2962 | 11969 | 1.81 | 1.86 | 9690 | 37632 | 100 |
|  | 100 | 2916 | 11561 | 1.86 | 1.81 | 9403 | 36909 | 100 |
|  | 99  | 2844 | 11506 | 1.79 | 1.82 | 9455 | 36924 | 100 |
|  | 100 | 2740 | 11970 | 1.76 | 1.85 | 9362 | 37571 | 100 |
|  | 97  | 2967 | 11353 | 1.86 | 1.82 | 9406 | 37006 | 100 |
|  | 98  | 2880 | 11620 | 1.83 | 1.83 | 9340 | 37176 | 100 |
|  | 99  | 3083 | 11401 | 1.91 | 1.80 | 9380 | 37055 | 100 |
|  | 99  | 2916 | 12002 | 1.85 | 1.84 | 9346 | 37810 | 100 |
|  | 100 | 2854 | 11822 | 1.82 | 1.81 | 9253 | 38142 | 100 |
|  | 97  | 2997 | 11337 | 1.83 | 1.77 | 9692 | 37727 | 100 |
|  | 100 | 2906 | 12422 | 1.82 | 1.90 | 9566 | 37680 | 100 |
|  | 99  | 3064 | 12310 | 1.86 | 1.93 | 9649 | 36276 | 100 |
|  | 99  | 2910 | 11564 | 1.82 | 1.82 | 9226 | 37443 | 100 |
|  | 100 | 3001 | 12656 | 1.87 | 1.93 | 9448 | 37981 | 100 |
|  | 100 | 2824 | 11235 | 1.80 | 1.77 | 9600 | 37228 | 100 |
|  | 100 | 2817 | 12570 | 1.77 | 1.88 | 9483 | 38696 | 100 |
|  | 100 | 2835 | 11905 | 1.79 | 1.85 | 9438 | 37837 | 100 |
|  | 99  | 3002 | 10926 | 1.84 | 1.73 | 9625 | 36872 | 100 |
|  | 100 | 2934 | 12415 | 1.86 | 1.88 | 9100 | 37891 | 100 |
|  | 99  | 3024 | 11529 | 1.92 | 1.80 | 9253 | 37597 | 100 |
|  | 99  | 2637 | 11385 | 1.68 | 1.79 | 9510 | 37198 | 100 |
|  | 99  | 2815 | 11499 | 1.80 | 1.78 | 9268 | 37606 | 100 |
|  | 99  | 3041 | 11524 | 1.87 | 1.77 | 9520 | 37580 | 100 |
|  | 99  | 2804 | 12066 | 1.74 | 1.85 | 9737 | 37419 | 100 |
|  | 99  | 2872 | 11495 | 1.79 | 1.79 | 9480 | 37791 | 100 |
|  | 98  | 2870 | 11909 | 1.80 | 1.84 | 9561 | 37510 | 100 |
|  | 100 | 2762 | 11745 | 1.82 | 1.84 | 9124 | 36905 | 100 |
|  | 96  | 2983 | 11345 | 1.83 | 1.77 | 9499 | 37794 | 100 |
|  | 100 | 2872 | 11682 | 1.80 | 1.83 | 9486 | 37841 | 100 |
|  | 100 | 2778 | 12272 | 1.76 | 1.87 | 9654 | 37781 | 100 |
|  | 100 | 2973 | 12111 | 1.84 | 1.93 | 9483 | 36000 | 100 |
|  | 98  | 2850 | 11690 | 1.84 | 1.81 | 9233 | 37737 | 100 |
|  | 99  | 2949 | 11301 | 1.81 | 1.77 | 9553 | 37681 | 100 |
|  | 98  | 2886 | 11502 | 1.83 | 1.80 | 9323 | 37405 | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 98  | 3018 | 11678 | 1.87 | 1.82 | 9578 | 37748 | 100 |
| 99  | 2949 | 12236 | 1.87 | 1.83 | 9390 | 38980 | 100 |
| 99  | 2638 | 11593 | 1.72 | 1.87 | 9272 | 36124 | 100 |
| 98  | 3138 | 11748 | 1.94 | 1.82 | 9626 | 37679 | 100 |
| 98  | 2911 | 11918 | 1.81 | 1.81 | 9492 | 37797 | 100 |
| 99  | 2730 | 11835 | 1.73 | 1.86 | 9410 | 36648 | 100 |
| 99  | 3053 | 11498 | 1.87 | 1.81 | 9388 | 36955 | 100 |
| 100 | 2881 | 12052 | 1.81 | 1.87 | 9268 | 37820 | 100 |
| 98  | 2994 | 11352 | 1.85 | 1.77 | 9524 | 37359 | 100 |
| 99  | 2805 | 10905 | 1.77 | 1.72 | 9377 | 37223 | 100 |
| 100 | 2903 | 11862 | 1.81 | 1.84 | 9413 | 37376 | 100 |
| 100 | 2652 | 12502 | 1.74 | 1.90 | 9300 | 38017 | 100 |
| 99  | 2803 | 12413 | 1.80 | 1.88 | 9228 | 37590 | 100 |
| 100 | 3031 | 11670 | 1.86 | 1.85 | 9609 | 36144 | 100 |
| 99  | 2861 | 11662 | 1.80 | 1.83 | 9417 | 36960 | 100 |
| 98  | 2946 | 11571 | 1.81 | 1.82 | 9550 | 37022 | 100 |
| 100 | 2924 | 11816 | 1.85 | 1.82 | 9345 | 38005 | 100 |
| 98  | 2816 | 11902 | 1.79 | 1.82 | 9315 | 37953 | 100 |
| 100 | 2979 | 11796 | 1.85 | 1.80 | 9557 | 37798 | 100 |
| 100 | 2741 | 12244 | 1.76 | 1.88 | 9390 | 37412 | 100 |
| 100 | 2948 | 11283 | 1.83 | 1.75 | 9366 | 38440 | 100 |
| 99  | 2880 | 12046 | 1.79 | 1.85 | 9440 | 37590 | 100 |
| 99  | 2847 | 11688 | 1.81 | 1.84 | 9478 | 36885 | 100 |
| 99  | 2967 | 11605 | 1.86 | 1.78 | 9432 | 38027 | 100 |
| 100 | 3021 | 12000 | 1.82 | 1.87 | 9779 | 37498 | 100 |
| 97  | 2994 | 12069 | 1.86 | 1.82 | 9502 | 38469 | 100 |
| 99  | 2981 | 11565 | 1.85 | 1.81 | 9500 | 37319 | 100 |
| 98  | 3001 | 11848 | 1.88 | 1.84 | 9201 | 37259 | 100 |
| 97  | 2923 | 11532 | 1.81 | 1.83 | 9394 | 36823 | 100 |
| 100 | 2831 | 11711 | 1.76 | 1.82 | 9678 | 37396 | 100 |
| 99  | 2859 | 11295 | 1.78 | 1.75 | 9547 | 38458 | 100 |
| 100 | 2980 | 11776 | 1.84 | 1.81 | 9535 | 37816 | 100 |
| 99  | 2930 | 11583 | 1.81 | 1.79 | 9585 | 37960 | 100 |
| 99  | 2981 | 12518 | 1.83 | 1.92 | 9706 | 37707 | 100 |
| 100 | 2788 | 12150 | 1.80 | 1.86 | 9117 | 37927 | 100 |
| 100 | 2859 | 11742 | 1.78 | 1.84 | 9450 | 37095 | 100 |
| 98  | 2968 | 11913 | 1.85 | 1.86 | 9527 | 37248 | 100 |
| 99  | 2969 | 12078 | 1.82 | 1.85 | 9519 | 37616 | 100 |
| 99  | 2829 | 11647 | 1.78 | 1.85 | 9612 | 36881 | 100 |
| 99  | 2890 | 11791 | 1.80 | 1.82 | 9538 | 37730 | 100 |
| 100 | 3020 | 11588 | 1.90 | 1.80 | 9386 | 37905 | 100 |
| 99  | 2845 | 11991 | 1.78 | 1.84 | 9388 | 38219 | 100 |
| 99  | 2850 | 11734 | 1.73 | 1.84 | 9911 | 36593 | 100 |
| 99  | 2904 | 11731 | 1.83 | 1.78 | 9248 | 38527 | 100 |
| 100 | 2923 | 11099 | 1.85 | 1.77 | 9371 | 36992 | 100 |
| 100 | 2777 | 11804 | 1.73 | 1.86 | 9603 | 37291 | 100 |
| 99  | 2987 | 11598 | 1.86 | 1.78 | 9566 | 38385 | 100 |
| 100 | 2818 | 11983 | 1.82 | 1.82 | 9469 | 38046 | 100 |
| 99  | 2986 | 11922 | 1.92 | 1.84 | 9125 | 37445 | 100 |
| 99  | 3011 | 11652 | 1.87 | 1.77 | 9468 | 38162 | 100 |
| 100 | 3039 | 11774 | 1.86 | 1.80 | 9696 | 38048 | 100 |
| 98  | 3081 | 11308 | 1.84 | 1.77 | 9735 | 37538 | 100 |
| 99  | 2908 | 11590 | 1.83 | 1.76 | 9487 | 39184 | 100 |
| 100 | 2937 | 11736 | 1.79 | 1.81 | 9859 | 37386 | 100 |
| 100 | 2865 | 11952 | 1.78 | 1.85 | 9449 | 37905 | 100 |
| 100 | 2909 | 11531 | 1.82 | 1.81 | 9468 | 37513 | 100 |
| 99  | 2809 | 12225 | 1.80 | 1.90 | 9346 | 37585 | 100 |
| 97  | 2772 | 11912 | 1.78 | 1.86 | 9325 | 37458 | 100 |
| 99  | 2887 | 11254 | 1.83 | 1.81 | 9348 | 36745 | 100 |
| 99  | 2926 | 11098 | 1.82 | 1.76 | 9636 | 36670 | 100 |
| 99  | 2724 | 12205 | 1.73 | 1.86 | 9368 | 37893 | 100 |
| 98  | 3229 | 11282 | 1.92 | 1.76 | 9849 | 37598 | 100 |
| 100 | 3052 | 11944 | 1.86 | 1.82 | 9539 | 38150 | 100 |
| 100 | 2965 | 12177 | 1.86 | 1.88 | 9460 | 37089 | 100 |
| 100 | 2955 | 12232 | 1.84 | 1.91 | 9504 | 36595 | 100 |
| 99  | 2907 | 12187 | 1.85 | 1.85 | 9292 | 38353 | 100 |
| 99  | 2906 | 11279 | 1.80 | 1.77 | 9599 | 37251 | 100 |
| 100 | 2734 | 11751 | 1.73 | 1.83 | 9730 | 37615 | 100 |
| 100 | 3046 | 11874 | 1.84 | 1.85 | 9826 | 37650 | 100 |
| 100 | 2816 | 11046 | 1.80 | 1.76 | 9367 | 36991 | 100 |
| 97  | 2946 | 11843 | 1.84 | 1.84 | 9312 | 37688 | 100 |
| 98  | 2992 | 11594 | 1.86 | 1.80 | 9468 | 37137 | 100 |
| 100 | 3155 | 12535 | 1.90 | 1.88 | 9690 | 38377 | 100 |
| 100 | 2951 | 11781 | 1.87 | 1.84 | 9503 | 37068 | 100 |
| 100 | 2724 | 12412 | 1.77 | 1.95 | 9280 | 37113 | 100 |
| 100 | 2891 | 11597 | 1.81 | 1.80 | 9528 | 38110 | 100 |
| 97  | 3001 | 11916 | 1.85 | 1.81 | 9604 | 38307 | 100 |
| 100 | 3001 | 12575 | 1.80 | 1.92 | 9780 | 37605 | 100 |
| 99  | 2897 | 12058 | 1.78 | 1.87 | 9620 | 37555 | 100 |
| 100 | 2888 | 11704 | 1.84 | 1.82 | 9336 | 37307 | 100 |
| 97  | 2961 | 11945 | 1.86 | 1.88 | 9550 | 36728 | 100 |
| 99  | 2880 | 11728 | 1.80 | 1.83 | 9545 | 37301 | 100 |
| 99  | 2893 | 12288 | 1.83 | 1.89 | 9422 | 37622 | 100 |
| 100 | 2926 | 11763 | 1.84 | 1.81 | 9363 | 37472 | 100 |
| 100 | 2711 | 11262 | 1.74 | 1.78 | 9377 | 36926 | 100 |
| 100 | 2926 | 11837 | 1.83 | 1.80 | 9289 | 38149 | 100 |
| 97  | 2824 | 11626 | 1.79 | 1.83 | 9683 | 37286 | 100 |
| 100 | 3093 | 12037 | 1.87 | 1.85 | 9675 | 37948 | 100 |
| 100 | 2710 | 12052 | 1.76 | 1.85 | 9132 | 37847 | 100 |
| 100 | 2927 | 12158 | 1.80 | 1.89 | 9457 | 37070 | 100 |
| 99  | 2944 | 11504 | 1.88 | 1.82 | 9424 | 37212 | 100 |
| 100 | 2929 | 11847 | 1.85 | 1.84 | 9311 | 37242 | 100 |
| 99  | 2853 | 11592 | 1.76 | 1.83 | 9672 | 36089 | 100 |
| 100 | 2865 | 12732 | 1.80 | 1.90 | 9456 | 38362 | 100 |
| 98  | 3053 | 11831 | 1.90 | 1.82 | 9552 | 37717 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 97  | 2938 | 11994 | 1.84 | 1.83 | 9404 | 37784 | 100 |
|  | 99  | 3124 | 11689 | 1.89 | 1.82 | 9545 | 36894 | 100 |
|  | 100 | 2695 | 11954 | 1.77 | 1.82 | 9033 | 38095 | 100 |
|  | 98  | 2863 | 11397 | 1.76 | 1.82 | 9617 | 36265 | 100 |
|  | 98  | 2769 | 11665 | 1.80 | 1.81 | 9180 | 37842 | 100 |
|  | 98  | 2788 | 11263 | 1.77 | 1.83 | 9412 | 36098 | 100 |
|  | 100 | 2951 | 11528 | 1.85 | 1.82 | 9371 | 37534 | 100 |
|  | 100 | 2817 | 12259 | 1.77 | 1.88 | 9517 | 37391 | 100 |
|  | 100 | 2621 | 12220 | 1.73 | 1.90 | 9229 | 37157 | 100 |
|  | 100 | 2946 | 11667 | 1.82 | 1.83 | 9542 | 36953 | 100 |
|  | 98  | 3025 | 10876 | 1.85 | 1.76 | 9571 | 36067 | 100 |
|  | 99  | 2839 | 11445 | 1.75 | 1.75 | 9567 | 38307 | 100 |
|  | 99  | 2949 | 12149 | 1.85 | 1.84 | 9632 | 38615 | 100 |
|  | 99  | 3228 | 12019 | 1.95 | 1.86 | 9641 | 37385 | 100 |
|  | 99  | 3045 | 11956 | 1.89 | 1.86 | 9532 | 37380 | 100 |
|  | 100 | 3010 | 11228 | 1.88 | 1.76 | 9551 | 37942 | 100 |
|  | 97  | 2991 | 11544 | 1.83 | 1.82 | 9522 | 36946 | 100 |
|  | 100 | 2873 | 11705 | 1.78 | 1.81 | 9693 | 37590 | 100 |
|  | 98  | 2871 | 11695 | 1.82 | 1.84 | 9270 | 37106 | 100 |
|  | 98  | 2866 | 11307 | 1.85 | 1.80 | 9209 | 36350 | 100 |
|  | 98  | 3021 | 11853 | 1.83 | 1.88 | 9597 | 36773 | 100 |
|  | 99  | 2881 | 11658 | 1.81 | 1.80 | 9546 | 38134 | 100 |
|  | 100 | 2894 | 11098 | 1.80 | 1.78 | 9651 | 37049 | 100 |
|  | 99  | 2902 | 12242 | 1.78 | 1.87 | 9540 | 37590 | 100 |
|  | 99  | 2853 | 11316 | 1.82 | 1.76 | 9374 | 37410 | 100 |
|  | 100 | 2907 | 11667 | 1.83 | 1.85 | 9533 | 36617 | 100 |
|  | 98  | 2874 | 11890 | 1.86 | 1.82 | 9140 | 37823 | 100 |
|  | 98  | 2842 | 11521 | 1.75 | 1.80 | 9699 | 37318 | 100 |
|  | 100 | 3060 | 11883 | 1.95 | 1.82 | 9288 | 38443 | 100 |
|  | 100 | 2944 | 11627 | 1.87 | 1.81 | 9387 | 37389 | 100 |
|  | 99  | 2884 | 11422 | 1.77 | 1.83 | 9690 | 35792 | 100 |
|  | 99  | 2727 | 11410 | 1.78 | 1.78 | 9023 | 37854 | 100 |
|  | 99  | 3026 | 12022 | 1.85 | 1.83 | 9685 | 37865 | 100 |
|  | 100 | 3034 | 12075 | 1.87 | 1.83 | 9463 | 38104 | 100 |
|  | 99  | 2787 | 11939 | 1.75 | 1.83 | 9566 | 38043 | 100 |
|  | 99  | 3004 | 12247 | 1.86 | 1.88 | 9566 | 37412 | 100 |
|  | 97  | 2983 | 11326 | 1.85 | 1.80 | 9549 | 36618 | 100 |
|  | 99  | 2945 | 12477 | 1.82 | 1.90 | 9594 | 37810 | 100 |
|  | 99  | 2843 | 12500 | 1.79 | 1.92 | 9393 | 37412 | 100 |
|  | 100 | 2844 | 12253 | 1.79 | 1.89 | 9450 | 37581 | 100 |
|  | 100 | 2903 | 12520 | 1.86 | 1.93 | 9411 | 37049 | 100 |
|  | 99  | 2890 | 11747 | 1.82 | 1.79 | 9395 | 37961 | 100 |
|  | 100 | 2786 | 11726 | 1.78 | 1.82 | 9366 | 37481 | 100 |
|  | 100 | 3014 | 11386 | 1.84 | 1.78 | 9611 | 37357 | 100 |
|  | 100 | 2777 | 12500 | 1.76 | 1.92 | 9720 | 38081 | 100 |
|  | 98  | 2959 | 10953 | 1.90 | 1.76 | 9148 | 36800 | 100 |
|  | 98  | 2929 | 11923 | 1.83 | 1.84 | 9342 | 37666 | 100 |
|  | 98  | 3008 | 11569 | 1.85 | 1.79 | 9297 | 37964 | 100 |
|  | 100 | 2896 | 11477 | 1.82 | 1.79 | 9554 | 37698 | 100 |
|  | 100 | 2747 | 11508 | 1.74 | 1.81 | 9598 | 36950 | 100 |
|  | 100 | 2920 | 12156 | 1.82 | 1.86 | 9379 | 38047 | 100 |
|  | 97  | 2845 | 11977 | 1.80 | 1.87 | 9353 | 36738 | 100 |
|  | 98  | 3039 | 11703 | 1.91 | 1.78 | 9283 | 38121 | 100 |
|  | 100 | 2930 | 12101 | 1.82 | 1.84 | 9490 | 38199 | 100 |
|  | 100 | 2942 | 11974 | 1.83 | 1.87 | 9565 | 36847 | 100 |
|  | 99  | 3045 | 11598 | 1.89 | 1.80 | 9488 | 37543 | 100 |
|  | 100 | 2709 | 11951 | 1.75 | 1.84 | 9245 | 37730 | 100 |
|  | 97  | 3103 | 11323 | 1.89 | 1.81 | 9620 | 37141 | 100 |
|  | 100 | 2928 | 11918 | 1.85 | 1.84 | 9342 | 37661 | 100 |
|  | 100 | 2993 | 11870 | 1.88 | 1.82 | 9367 | 37841 | 100 |
|  | 100 | 2988 | 12460 | 1.83 | 1.92 | 9544 | 37334 | 100 |
|  | 99  | 2932 | 11323 | 1.86 | 1.79 | 9294 | 37369 | 100 |
|  | 100 | 2791 | 11359 | 1.79 | 1.76 | 9262 | 37347 | 100 |
|  | 98  | 2958 | 11809 | 1.81 | 1.84 | 9620 | 38095 | 100 |
|  | 100 | 2786 | 12468 | 1.80 | 1.92 | 9105 | 37510 | 100 |
|  | 100 | 3097 | 12035 | 1.89 | 1.89 | 9577 | 36776 | 100 |
|  | 100 | 2839 | 11376 | 1.78 | 1.75 | 9568 | 38235 | 100 |
|  | 99  | 3076 | 12796 | 1.89 | 1.95 | 9475 | 37898 | 100 |
|  | 98  | 2888 | 11762 | 1.81 | 1.82 | 9469 | 37405 | 100 |
|  | 100 | 3007 | 11823 | 1.87 | 1.82 | 9623 | 37464 | 100 |
|  | 100 | 2958 | 11345 | 1.85 | 1.83 | 9419 | 36167 | 100 |
|  | 100 | 2984 | 11602 | 1.84 | 1.81 | 9630 | 37121 | 100 |
|  | 99  | 3037 | 12565 | 1.87 | 1.91 | 9699 | 38404 | 100 |
|  | 100 | 2948 | 11826 | 1.82 | 1.84 | 9460 | 37690 | 100 |
|  | 100 | 2950 | 11909 | 1.84 | 1.92 | 9485 | 35750 | 100 |
|  | 100 | 2977 | 12404 | 1.88 | 1.89 | 9251 | 38396 | 100 |
|  | 99  | 2973 | 11499 | 1.88 | 1.85 | 9337 | 36680 | 100 |
|  | 99  | 2853 | 12409 | 1.84 | 1.91 | 9206 | 37776 | 100 |
|  | 100 | 2956 | 11510 | 1.85 | 1.83 | 9484 | 36533 | 100 |
|  | 99  | 2858 | 12277 | 1.81 | 1.86 | 9421 | 38458 | 100 |
|  | 100 | 2904 | 11407 | 1.81 | 1.82 | 9474 | 36889 | 100 |
|  | 99  | 2806 | 12229 | 1.79 | 1.87 | 9353 | 37875 | 100 |
|  | 100 | 3041 | 11930 | 1.84 | 1.87 | 9591 | 36703 | 100 |
|  | 98  | 2921 | 11284 | 1.88 | 1.76 | 9274 | 37514 | 100 |
|  | 99  | 2945 | 11930 | 1.84 | 1.83 | 9574 | 38082 | 100 |
|  | 98  | 3145 | 11976 | 1.89 | 1.83 | 9699 | 38437 | 100 |
|  | 100 | 3009 | 12415 | 1.88 | 1.95 | 9438 | 36547 | 100 |
|  | 100 | 2843 | 11517 | 1.80 | 1.81 | 9370 | 36723 | 100 |
|  | 99  | 2866 | 11991 | 1.78 | 1.82 | 9556 | 38354 | 100 |
|  | 100 | 2821 | 12548 | 1.81 | 1.90 | 9195 | 37624 | 100 |
|  | 98  | 2960 | 11910 | 1.89 | 1.86 | 9232 | 36723 | 100 |
|  | 100 | 2919 | 11498 | 1.85 | 1.84 | 9352 | 36633 | 100 |
|  | 100 | 2732 | 11370 | 1.73 | 1.77 | 9366 | 37259 | 100 |
|  | 100 | 2762 | 12065 | 1.74 | 1.85 | 9646 | 38204 | 100 |
|  | 97  | 2973 | 11465 | 1.82 | 1.78 | 9715 | 37547 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2928 | 11764 | 1.80 | 1.83 | 9697 | 37044 |  | 100 |
|  | 98  | 3014 | 11653 | 1.86 | 1.80 | 9483 | 37652 |  | 100 |
|  | 99  | 2931 | 12463 | 1.79 | 1.90 | 9595 | 37612 |  | 100 |
|  | 99  | 2785 | 12377 | 1.75 | 1.91 | 9527 | 37510 |  | 100 |
|  | 100 | 2891 | 11917 | 1.84 | 1.87 | 9340 | 36731 |  | 100 |
|  | 100 | 2934 | 11804 | 1.83 | 1.88 | 9555 | 36822 |  | 100 |
|  | 100 | 2893 | 11955 | 1.85 | 1.85 | 9279 | 37442 |  | 100 |
|  | 98  | 2701 | 11986 | 1.74 | 1.83 | 9330 | 38111 |  | 100 |
|  | 100 | 2950 | 11473 | 1.85 | 1.79 | 9326 | 37454 |  | 100 |
|  | 98  | 2820 | 11469 | 1.79 | 1.76 | 9315 | 37963 |  | 100 |
|  | 100 | 2695 | 11325 | 1.74 | 1.80 | 9304 | 37380 |  | 100 |
|  | 99  | 2821 | 11912 | 1.76 | 1.81 | 9489 | 37759 |  | 100 |
|  | 99  | 2775 | 11774 | 1.77 | 1.84 | 9374 | 37021 |  | 100 |
|  | 100 | 2803 | 12040 | 1.74 | 1.85 | 9626 | 37540 |  | 100 |
|  | 100 | 2854 | 11723 | 1.80 | 1.81 | 9427 | 37836 |  | 100 |
|  | 100 | 2743 | 11853 | 1.71 | 1.81 | 9596 | 37889 |  | 100 |
|  | 99  | 3129 | 11826 | 1.94 | 1.84 | 9350 | 37585 |  | 100 |
|  | 99  | 2798 | 11534 | 1.81 | 1.80 | 9253 | 37258 |  | 100 |
|  | 99  | 2928 | 11296 | 1.81 | 1.78 | 9471 | 37184 |  | 100 |
|  | 100 | 2905 | 12556 | 1.82 | 1.88 | 9409 | 38399 |  | 100 |
|  | 99  | 2817 | 11925 | 1.78 | 1.89 | 9399 | 36800 |  | 100 |
|  | 99  | 2906 | 11645 | 1.85 | 1.81 | 9310 | 37476 |  | 100 |
|  | 98  | 2854 | 11863 | 1.78 | 1.88 | 9481 | 36825 |  | 100 |
|  | 100 | 2864 | 11678 | 1.82 | 1.82 | 9481 | 37328 |  | 100 |
|  | 99  | 2867 | 11853 | 1.79 | 1.83 | 9700 | 37784 |  | 100 |
|  | 99  | 2996 | 11739 | 1.91 | 1.84 | 9394 | 37756 |  | 100 |
|  | 100 | 2827 | 11549 | 1.78 | 1.86 | 9595 | 36286 |  | 100 |
|  | 100 | 2944 | 11781 | 1.88 | 1.83 | 9285 | 37832 |  | 100 |
|  | 98  | 2803 | 12330 | 1.82 | 1.92 | 9192 | 37192 |  | 100 |
|  | 100 | 2846 | 12285 | 1.75 | 1.90 | 9661 | 37434 |  | 100 |
|  | 98  | 2991 | 11485 | 1.88 | 1.77 | 9417 | 37882 |  | 100 |
|  | 97  | 2975 | 12187 | 1.79 | 1.88 | 9763 | 37544 |  | 100 |
|  | 99  | 2932 | 11971 | 1.85 | 1.89 | 9400 | 37016 |  | 100 |
|  | 100 | 2717 | 11574 | 1.75 | 1.78 | 9314 | 38034 |  | 100 |
|  | 100 | 2802 | 11615 | 1.78 | 1.81 | 9346 | 37721 |  | 100 |
|  | 100 | 2903 | 11762 | 1.80 | 1.83 | 9507 | 37632 |  | 100 |
|  | 100 | 2829 | 11735 | 1.80 | 1.82 | 9359 | 36853 |  | 100 |
|  | 97  | 2978 | 11501 | 1.93 | 1.82 | 9137 | 37412 |  | 100 |
|  | 100 | 2723 | 11859 | 1.75 | 1.85 | 9409 | 36834 |  | 100 |
|  | 98  | 2938 | 10633 | 1.87 | 1.78 | 9472 | 35887 |  | 100 |
|  | 99  | 2896 | 11738 | 1.79 | 1.82 | 9754 | 37628 |  | 100 |
|  | 99  | 2874 | 11303 | 1.77 | 1.77 | 9801 | 37396 |  | 100 |
|  | 99  | 2809 | 11586 | 1.81 | 1.82 | 9062 | 37314 |  | 100 |
|  | 99  | 2772 | 11222 | 1.80 | 1.82 | 9131 | 36391 |  | 100 |
|  | 98  | 2745 | 11012 | 1.77 | 1.76 | 9359 | 36843 |  | 100 |
|  | 100 | 2696 | 11211 | 1.74 | 1.77 | 9355 | 36971 |  | 100 |
|  | 100 | 2736 | 11895 | 1.76 | 1.86 | 9207 | 37011 |  | 100 |
|  | 99  | 2856 | 11394 | 1.79 | 1.82 | 9494 | 36343 |  | 100 |
|  | 100 | 3012 | 11792 | 1.85 | 1.82 | 9616 | 37452 |  | 100 |
|  | 99  | 3005 | 12343 | 1.83 | 1.85 | 9693 | 38671 |  | 100 |
|  | 99  | 3139 | 11824 | 1.96 | 1.81 | 9211 | 38174 |  | 100 |
|  | 100 | 2847 | 12805 | 1.81 | 1.95 | 9298 | 37430 |  | 100 |
|  | 100 | 3018 | 11987 | 1.89 | 1.89 | 9363 | 37116 |  | 100 |
|  | 100 | 2937 | 11462 | 1.86 | 1.81 | 9341 | 36651 |  | 100 |
|  | 99  | 2764 | 11609 | 1.77 | 1.82 | 9370 | 37521 |  | 100 |
|  | 100 | 2794 | 11963 | 1.71 | 1.86 | 9790 | 37734 |  | 100 |
|  | 100 | 2876 | 11782 | 1.81 | 1.82 | 9318 | 37616 |  | 100 |
|  | 97  | 2853 | 11821 | 1.82 | 1.87 | 9216 | 37091 |  | 100 |
|  | 97  | 2795 | 11504 | 1.76 | 1.81 | 9301 | 37185 |  | 100 |
|  | 98  | 2884 | 12122 | 1.82 | 1.85 | 9336 | 38216 |  | 100 |
|  | 100 | 2932 | 11548 | 1.82 | 1.78 | 9637 | 37766 |  | 100 |
|  | 100 | 2850 | 10923 | 1.79 | 1.77 | 9417 | 36775 |  | 100 |
|  | 100 | 2751 | 12337 | 1.79 | 1.94 | 9123 | 37120 |  | 100 |
|  | 100 | 3114 | 11923 | 1.89 | 1.81 | 9650 | 38091 |  | 100 |
|  | 99  | 2903 | 11589 | 1.76 | 1.83 | 9914 | 37028 |  | 100 |
|  | 100 | 3035 | 11138 | 1.91 | 1.76 | 9415 | 36985 |  | 100 |
|  | 99  | 2899 | 11693 | 1.79 | 1.83 | 9450 | 37448 |  | 100 |
|  | 100 | 2856 | 11099 | 1.81 | 1.75 | 9462 | 37540 |  | 100 |
|  | 100 | 3076 | 11423 | 1.87 | 1.77 | 9465 | 37419 |  | 100 |
|  | 100 | 2804 | 11926 | 1.80 | 1.85 | 9274 | 37299 |  | 100 |
|  | 99  | 2843 | 11799 | 1.77 | 1.82 | 9529 | 37925 |  | 100 |
|  | 100 | 2946 | 12511 | 1.83 | 1.91 | 9632 | 37443 |  | 100 |
|  | 100 | 2603 | 11039 | 1.70 | 1.74 | 9350 | 37780 |  | 100 |
|  | 99  | 2920 | 11902 | 1.84 | 1.86 | 9360 | 36960 |  | 100 |
|  | 98  | 2664 | 12785 | 1.72 | 1.95 | 9342 | 37765 |  | 100 |
|  | 100 | 2792 | 11986 | 1.76 | 1.84 | 9502 | 37693 |  | 100 |
|  | 100 | 2888 | 12269 | 1.81 | 1.85 | 9511 | 38273 |  | 100 |
|  | 100 | 2961 | 12031 | 1.83 | 1.87 | 9705 | 36941 |  | 100 |
|  | 99  | 2935 | 11831 | 1.80 | 1.82 | 9556 | 37965 |  | 100 |
|  | 100 | 3023 | 11692 | 1.88 | 1.80 | 9467 | 37472 |  | 100 |
|  | 100 | 2873 | 11857 | 1.84 | 1.85 | 9273 | 36997 |  | 100 |
|  | 99  | 2960 | 11903 | 1.80 | 1.86 | 9651 | 37503 |  | 100 |
|  | 100 | 2918 | 11629 | 1.83 | 1.79 | 9401 | 38039 |  | 100 |
|  | 98  | 2935 | 11279 | 1.82 | 1.76 | 9554 | 37605 |  | 100 |
|  | 100 | 2951 | 11527 | 1.85 | 1.79 | 9423 | 37606 |  | 100 |
|  | 100 | 2943 | 12320 | 1.83 | 1.87 | 9348 | 37888 |  | 100 |
|  | 99  | 2940 | 11002 | 1.83 | 1.76 | 9296 | 36729 |  | 100 |
|  | 100 | 2728 | 11613 | 1.76 | 1.79 | 9351 | 37936 |  | 100 |
|  | 100 | 2897 | 11865 | 1.83 | 1.82 | 9388 | 38148 |  | 100 |
|  | 99  | 3050 | 11902 | 1.88 | 1.85 | 9499 | 37893 |  | 100 |
|  | 100 | 3019 | 11404 | 1.82 | 1.78 | 9729 | 37129 |  | 100 |
|  | 100 | 2979 | 11864 | 1.80 | 1.84 | 9742 | 37395 |  | 100 |
|  | 100 | 2786 | 12316 | 1.77 | 1.88 | 9381 | 37673 |  | 100 |
|  | 100 | 2984 | 12142 | 1.85 | 1.83 | 9363 | 38775 |  | 100 |
|  | 100 | 3068 | 11204 | 1.84 | 1.79 | 9737 | 36819 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2862 | 12273 | 1.79 | 1.90 | 9482 | 37486 | 100 |
|  | 100 | 2888 | 11793 | 1.83 | 1.81 | 9346 | 38301 | 100 |
|  | 100 | 3048 | 11955 | 1.88 | 1.83 | 9611 | 38125 | 100 |
|  | 100 | 3002 | 12296 | 1.90 | 1.88 | 9284 | 37643 | 100 |
|  | 99  | 3021 | 11715 | 1.91 | 1.82 | 9321 | 37445 | 100 |
|  | 100 | 2903 | 12208 | 1.84 | 1.84 | 9430 | 38869 | 100 |
|  | 99  | 2908 | 11614 | 1.83 | 1.83 | 9369 | 37533 | 100 |
|  | 98  | 2864 | 12295 | 1.80 | 1.88 | 9499 | 37769 | 100 |
|  | 99  | 2898 | 11717 | 1.86 | 1.82 | 9383 | 37161 | 100 |
|  | 100 | 3086 | 12198 | 1.85 | 1.89 | 9717 | 37495 | 100 |
|  | 99  | 2905 | 11308 | 1.84 | 1.79 | 9573 | 37476 | 100 |
|  | 99  | 3014 | 11902 | 1.86 | 1.86 | 9606 | 37438 | 100 |
|  | 100 | 2862 | 12096 | 1.79 | 1.83 | 9471 | 38117 | 100 |
|  | 99  | 2840 | 11926 | 1.78 | 1.83 | 9470 | 37949 | 100 |
|  | 100 | 2846 | 11492 | 1.81 | 1.82 | 9362 | 36867 | 100 |
|  | 100 | 2864 | 11557 | 1.79 | 1.82 | 9362 | 37284 | 100 |
|  | 100 | 2885 | 12451 | 1.82 | 1.86 | 9407 | 38616 | 100 |
|  | 100 | 2828 | 11911 | 1.81 | 1.85 | 9276 | 37627 | 100 |
|  | 99  | 2959 | 11489 | 1.84 | 1.84 | 9417 | 36578 | 100 |
|  | 100 | 2807 | 12372 | 1.81 | 1.86 | 9290 | 38234 | 100 |
|  | 100 | 3108 | 11610 | 1.88 | 1.79 | 9729 | 37726 | 100 |
|  | 98  | 2921 | 11449 | 1.86 | 1.79 | 9556 | 37616 | 100 |
|  | 100 | 2886 | 11252 | 1.84 | 1.77 | 9262 | 37247 | 100 |
|  | 100 | 2880 | 11522 | 1.83 | 1.83 | 9432 | 36776 | 100 |
|  | 97  | 3015 | 11811 | 1.87 | 1.82 | 9455 | 37352 | 100 |
|  | 98  | 2849 | 12076 | 1.80 | 1.87 | 9417 | 37458 | 100 |
|  | 98  | 2899 | 12107 | 1.79 | 1.85 | 9699 | 37781 | 100 |
|  | 100 | 2927 | 11839 | 1.80 | 1.83 | 9456 | 38338 | 100 |
|  | 100 | 3028 | 11924 | 1.85 | 1.84 | 9701 | 37901 | 100 |
|  | 100 | 2828 | 12308 | 1.79 | 1.87 | 9476 | 37781 | 100 |
|  | 100 | 2722 | 12199 | 1.72 | 1.91 | 9513 | 36652 | 100 |
|  | 99  | 3101 | 11854 | 1.89 | 1.84 | 9650 | 37348 | 100 |
|  | 99  | 2945 | 11997 | 1.84 | 1.86 | 9434 | 37264 | 100 |
|  | 98  | 2888 | 11752 | 1.81 | 1.85 | 9460 | 36686 | 100 |
|  | 100 | 2804 | 12281 | 1.76 | 1.87 | 9570 | 37888 | 100 |
|  | 100 | 2971 | 11376 | 1.85 | 1.81 | 9322 | 37020 | 100 |
|  | 98  | 2986 | 11835 | 1.85 | 1.83 | 9489 | 37369 | 100 |
|  | 100 | 2981 | 11499 | 1.85 | 1.80 | 9444 | 37103 | 100 |
|  | 97  | 2887 | 12094 | 1.84 | 1.87 | 9296 | 37341 | 100 |
|  | 100 | 2866 | 11986 | 1.79 | 1.86 | 9593 | 37646 | 100 |
|  | 99  | 2855 | 11720 | 1.80 | 1.84 | 9479 | 37053 | 100 |
|  | 100 | 2697 | 11372 | 1.74 | 1.76 | 9321 | 38204 | 100 |
|  | 99  | 2824 | 11744 | 1.77 | 1.81 | 9443 | 37626 | 100 |
|  | 100 | 2850 | 11627 | 1.80 | 1.84 | 9356 | 37250 | 100 |
|  | 99  | 2858 | 11823 | 1.77 | 1.84 | 9602 | 37273 | 100 |
|  | 99  | 2800 | 11966 | 1.75 | 1.85 | 9636 | 37829 | 100 |
|  | 100 | 2967 | 11867 | 1.85 | 1.81 | 9394 | 37849 | 100 |
|  | 100 | 2892 | 11953 | 1.82 | 1.86 | 9413 | 37424 | 100 |
|  | 99  | 3048 | 11868 | 1.88 | 1.80 | 9611 | 38141 | 100 |
|  | 98  | 2884 | 11591 | 1.81 | 1.78 | 9338 | 38134 | 100 |
|  | 100 | 3071 | 12161 | 1.90 | 1.87 | 9420 | 37493 | 100 |
|  | 100 | 2760 | 12175 | 1.77 | 1.89 | 9283 | 38107 | 100 |
|  | 99  | 3021 | 11408 | 1.91 | 1.78 | 9394 | 37485 | 100 |
|  | 100 | 3015 | 11807 | 1.83 | 1.79 | 9551 | 38518 | 100 |
|  | 100 | 2854 | 12006 | 1.79 | 1.84 | 9585 | 37715 | 100 |
|  | 100 | 2960 | 11938 | 1.84 | 1.84 | 9440 | 37836 | 100 |
|  | 100 | 2925 | 11881 | 1.85 | 1.81 | 9368 | 38175 | 100 |
|  | 100 | 2891 | 12212 | 1.82 | 1.91 | 9479 | 37051 | 100 |
|  | 99  | 3059 | 12137 | 1.87 | 1.85 | 9477 | 37822 | 100 |
|  | 99  | 2917 | 11946 | 1.84 | 1.82 | 9439 | 37876 | 100 |
|  | 98  | 2945 | 11593 | 1.84 | 1.79 | 9597 | 37681 | 100 |
|  | 100 | 2905 | 11892 | 1.83 | 1.80 | 9346 | 38589 | 100 |
|  | 99  | 2959 | 11955 | 1.82 | 1.84 | 9566 | 37287 | 100 |
|  | 100 | 3012 | 11781 | 1.89 | 1.83 | 9292 | 37340 | 100 |
|  | 100 | 3023 | 11656 | 1.84 | 1.82 | 9628 | 37541 | 100 |
|  | 100 | 2875 | 11587 | 1.82 | 1.79 | 9644 | 37567 | 100 |
|  | 100 | 2947 | 11421 | 1.84 | 1.78 | 9492 | 37536 | 100 |
|  | 100 | 2872 | 12095 | 1.80 | 1.84 | 9557 | 37654 | 100 |
|  | 100 | 2736 | 11128 | 1.73 | 1.76 | 9556 | 36880 | 100 |
|  | 98  | 2898 | 11675 | 1.85 | 1.83 | 9302 | 37341 | 100 |
|  | 100 | 2813 | 12264 | 1.78 | 1.88 | 9356 | 37433 | 100 |
|  | 99  | 2930 | 11966 | 1.85 | 1.86 | 9314 | 37830 | 100 |
|  | 100 | 3010 | 11711 | 1.90 | 1.80 | 9401 | 37879 | 100 |
|  | 100 | 2765 | 11770 | 1.74 | 1.84 | 9609 | 37535 | 100 |
|  | 100 | 2937 | 11537 | 1.82 | 1.81 | 9566 | 37248 | 100 |
|  | 100 | 2826 | 11884 | 1.82 | 1.82 | 9238 | 37864 | 100 |
|  | 99  | 3007 | 11856 | 1.83 | 1.81 | 9711 | 37879 | 100 |
|  | 100 | 2904 | 12175 | 1.80 | 1.87 | 9467 | 37520 | 100 |
|  | 100 | 2889 | 11975 | 1.84 | 1.86 | 9393 | 37387 | 100 |
|  | 100 | 2982 | 11958 | 1.82 | 1.81 | 9644 | 38140 | 100 |
|  | 100 | 2832 | 11860 | 1.78 | 1.81 | 9692 | 38095 | 100 |
|  | 100 | 2712 | 12075 | 1.78 | 1.85 | 9242 | 37754 | 100 |
|  | 100 | 2970 | 12071 | 1.85 | 1.86 | 9504 | 37420 | 100 |
|  | 100 | 3091 | 11595 | 1.87 | 1.81 | 9596 | 37225 | 100 |
|  | 100 | 3080 | 11724 | 1.92 | 1.84 | 9315 | 36958 | 100 |
|  | 100 | 2987 | 12550 | 1.85 | 1.91 | 9498 | 38101 | 100 |
|  | 100 | 2868 | 11546 | 1.81 | 1.83 | 9428 | 37032 | 100 |
|  | 100 | 2843 | 11335 | 1.77 | 1.78 | 9598 | 37031 | 100 |
|  | 99  | 3040 | 10995 | 1.89 | 1.79 | 9647 | 36362 | 100 |
|  | 100 | 2789 | 11409 | 1.78 | 1.80 | 9310 | 37807 | 100 |
|  | 100 | 2792 | 11671 | 1.74 | 1.83 | 9598 | 36942 | 100 |
|  | 100 | 3004 | 11933 | 1.89 | 1.82 | 9501 | 37708 | 100 |
|  | 100 | 2816 | 12008 | 1.78 | 1.85 | 9393 | 37915 | 100 |
|  | 100 | 3068 | 11602 | 1.88 | 1.82 | 9505 | 37337 | 100 |
|  | 100 | 2791 | 12313 | 1.77 | 1.86 | 9413 | 37756 | 100 |



|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 97  | 3164 | 11442 | 1.94 | 1.77 | 9578 | 38237 |  | 100 |
|  | 100 | 2964 | 12318 | 1.80 | 1.90 | 9612 | 37385 |  | 100 |
|  | 99  | 3078 | 11361 | 1.91 | 1.83 | 9430 | 36559 |  | 100 |
|  | 99  | 2968 | 11794 | 1.83 | 1.82 | 9489 | 37749 |  | 100 |
|  | 100 | 3066 | 12161 | 1.89 | 1.86 | 9401 | 37909 |  | 100 |
|  | 100 | 2905 | 12096 | 1.83 | 1.84 | 9295 | 38036 |  | 100 |
|  | 99  | 2945 | 11910 | 1.84 | 1.84 | 9424 | 37549 |  | 100 |
|  | 99  | 2739 | 12158 | 1.73 | 1.85 | 9455 | 37917 |  | 100 |
|  | 100 | 2746 | 12033 | 1.75 | 1.85 | 9306 | 37468 |  | 100 |
|  | 100 | 2930 | 11976 | 1.87 | 1.87 | 9242 | 36867 |  | 100 |
|  | 100 | 3009 | 11925 | 1.88 | 1.83 | 9429 | 38470 |  | 100 |
|  | 99  | 3010 | 11715 | 1.88 | 1.83 | 9601 | 37206 |  | 100 |
|  | 100 | 2924 | 11889 | 1.82 | 1.84 | 9505 | 37661 |  | 100 |
|  | 100 | 2956 | 11437 | 1.87 | 1.77 | 9318 | 38215 |  | 100 |
|  | 98  | 3015 | 11353 | 1.87 | 1.77 | 9513 | 37403 |  | 100 |
|  | 100 | 2823 | 11987 | 1.78 | 1.86 | 9328 | 37380 |  | 100 |
|  | 99  | 2944 | 11432 | 1.83 | 1.80 | 9477 | 37373 |  | 100 |
|  | 100 | 2815 | 11730 | 1.77 | 1.84 | 9577 | 37050 |  | 100 |
|  | 100 | 3044 | 12103 | 1.86 | 1.85 | 9655 | 37701 |  | 100 |
|  | 99  | 2740 | 11430 | 1.78 | 1.78 | 9429 | 37330 |  | 100 |
|  | 100 | 2850 | 11168 | 1.84 | 1.75 | 9318 | 37657 |  | 100 |
|  | 100 | 2672 | 11289 | 1.71 | 1.79 | 9491 | 36716 |  | 100 |
|  | 100 | 2849 | 11566 | 1.79 | 1.78 | 9462 | 37699 |  | 100 |
|  | 100 | 2969 | 11818 | 1.87 | 1.86 | 9327 | 36813 |  | 100 |
|  | 99  | 3022 | 12252 | 1.88 | 1.92 | 9425 | 36653 |  | 100 |
|  | 99  | 2939 | 12135 | 1.79 | 1.88 | 9719 | 37365 |  | 100 |
|  | 100 | 2719 | 12172 | 1.78 | 1.89 | 9145 | 37129 |  | 100 |
|  | 100 | 2820 | 11956 | 1.81 | 1.88 | 9139 | 36710 |  | 100 |
|  | 97  | 2865 | 11704 | 1.84 | 1.82 | 9270 | 37065 |  | 100 |
|  | 99  | 2992 | 12227 | 1.85 | 1.87 | 9524 | 37944 |  | 100 |
|  | 100 | 3004 | 11525 | 1.81 | 1.81 | 9687 | 36771 |  | 100 |
|  | 100 | 2879 | 11807 | 1.82 | 1.86 | 9432 | 37320 |  | 100 |
|  | 100 | 2924 | 12162 | 1.82 | 1.89 | 9375 | 37107 |  | 100 |
|  | 100 | 3144 | 11689 | 1.93 | 1.83 | 9466 | 37073 |  | 100 |
|  | 99  | 2991 | 11309 | 1.86 | 1.76 | 9396 | 37665 |  | 100 |
|  | 99  | 2814 | 11655 | 1.80 | 1.78 | 9290 | 37997 |  | 100 |
|  | 99  | 2903 | 12581 | 1.82 | 1.93 | 9332 | 37016 |  | 100 |
|  | 100 | 2950 | 11707 | 1.86 | 1.81 | 9417 | 37477 |  | 100 |
|  | 100 | 2732 | 11441 | 1.76 | 1.77 | 9459 | 37854 |  | 100 |
|  | 100 | 2959 | 11975 | 1.83 | 1.86 | 9553 | 37238 |  | 100 |
|  | 99  | 2924 | 11546 | 1.84 | 1.82 | 9376 | 37143 |  | 100 |
|  | 100 | 2976 | 12272 | 1.83 | 1.88 | 9551 | 37429 |  | 100 |
|  | 100 | 3007 | 12570 | 1.90 | 1.88 | 9492 | 38157 |  | 100 |
|  | 99  | 3014 | 11258 | 1.87 | 1.78 | 9393 | 37451 |  | 100 |
|  | 99  | 2930 | 11779 | 1.79 | 1.82 | 9621 | 37508 |  | 100 |
|  | 100 | 3045 | 11729 | 1.84 | 1.82 | 9555 | 37459 |  | 100 |
|  | 99  | 3264 | 11394 | 1.95 | 1.75 | 9715 | 38348 |  | 100 |
|  | 100 | 3008 | 12263 | 1.86 | 1.89 | 9459 | 37352 |  | 100 |
|  | 99  | 2899 | 11516 | 1.84 | 1.81 | 9378 | 37428 |  | 100 |
|  | 100 | 2791 | 11842 | 1.79 | 1.83 | 9179 | 37429 |  | 100 |
|  | 100 | 2875 | 11428 | 1.81 | 1.81 | 9359 | 36964 |  | 100 |
|  | 99  | 2852 | 12145 | 1.80 | 1.89 | 9271 | 37169 |  | 100 |
|  | 100 | 2884 | 12463 | 1.75 | 1.86 | 9827 | 38948 |  | 100 |
|  | 100 | 2602 | 12295 | 1.72 | 1.87 | 9248 | 38382 |  | 100 |
|  | 100 | 2945 | 11860 | 1.81 | 1.85 | 9621 | 37521 |  | 100 |
|  | 99  | 2965 | 12693 | 1.82 | 1.93 | 9557 | 37394 |  | 100 |
|  | 100 | 2829 | 11369 | 1.76 | 1.78 | 9703 | 37818 |  | 100 |
|  | 100 | 2932 | 11744 | 1.87 | 1.83 | 9203 | 37205 |  | 100 |
|  | 100 | 3047 | 12004 | 1.86 | 1.90 | 9654 | 37086 |  | 100 |
|  | 98  | 2690 | 11803 | 1.73 | 1.84 | 9273 | 37274 |  | 100 |
|  | 99  | 2837 | 12050 | 1.76 | 1.87 | 9541 | 37124 |  | 100 |
|  | 100 | 2866 | 11294 | 1.80 | 1.80 | 9520 | 37488 |  | 100 |
|  | 100 | 3008 | 12101 | 1.83 | 1.89 | 9633 | 36739 |  | 100 |
|  | 98  | 2889 | 11462 | 1.81 | 1.78 | 9383 | 37542 |  | 100 |
|  | 100 | 3123 | 12429 | 1.92 | 1.92 | 9480 | 37292 |  | 100 |
|  | 100 | 2693 | 11346 | 1.76 | 1.77 | 9253 | 37939 |  | 100 |
|  | 100 | 3129 | 11902 | 1.94 | 1.85 | 9537 | 37488 |  | 100 |
|  | 98  | 2746 | 12080 | 1.74 | 1.86 | 9470 | 37738 |  | 100 |
|  | 100 | 3001 | 11811 | 1.85 | 1.85 | 9544 | 36967 |  | 100 |
|  | 99  | 2985 | 12465 | 1.78 | 1.90 | 9803 | 38108 |  | 100 |
|  | 98  | 2954 | 10691 | 1.80 | 1.71 | 9913 | 37058 |  | 100 |
|  | 100 | 2719 | 11646 | 1.71 | 1.77 | 9491 | 38089 |  | 100 |
|  | 99  | 2729 | 10706 | 1.70 | 1.72 | 9772 | 36740 |  | 100 |
|  | 100 | 2997 | 11721 | 1.87 | 1.81 | 9530 | 38101 |  | 100 |
|  | 100 | 2824 | 12124 | 1.75 | 1.85 | 9671 | 38182 |  | 100 |
|  | 100 | 2797 | 11348 | 1.76 | 1.74 | 9484 | 38235 |  | 100 |
|  | 100 | 2750 | 11292 | 1.81 | 1.79 | 9096 | 37081 |  | 100 |
|  | 98  | 2883 | 10858 | 1.76 | 1.73 | 9817 | 37108 |  | 100 |
|  | 100 | 2872 | 11270 | 1.81 | 1.77 | 9483 | 37290 |  | 100 |
|  | 99  | 2855 | 11848 | 1.78 | 1.81 | 9448 | 37981 |  | 100 |
|  | 98  | 3029 | 11486 | 1.85 | 1.81 | 9491 | 37014 |  | 100 |
|  | 100 | 2913 | 11526 | 1.77 | 1.77 | 9792 | 38015 |  | 100 |
|  | 100 | 3071 | 12554 | 1.85 | 1.87 | 9818 | 38414 |  | 100 |
|  | 100 | 3027 | 12531 | 1.85 | 1.84 | 9586 | 39308 |  | 100 |
|  | 100 | 2870 | 12114 | 1.77 | 1.84 | 9722 | 38628 |  | 100 |
|  | 98  | 2616 | 11553 | 1.75 | 1.87 | 8915 | 36332 |  | 100 |
|  | 99  | 2915 | 12218 | 1.83 | 1.86 | 9490 | 37922 |  | 100 |
|  | 100 | 3068 | 12038 | 1.86 | 1.84 | 9705 | 38023 |  | 100 |
|  | 98  | 2828 | 11633 | 1.81 | 1.82 | 9169 | 37868 |  | 100 |
|  | 100 | 3012 | 12152 | 1.86 | 1.87 | 9562 | 37154 |  | 100 |
|  | 100 | 2916 | 12242 | 1.93 | 1.93 | 8876 | 36464 |  | 100 |
|  | 100 | 2840 | 12663 | 1.82 | 1.91 | 9257 | 38005 |  | 100 |
|  | 100 | 2841 | 11588 | 1.81 | 1.82 | 9335 | 37012 |  | 100 |
|  | 99  | 3059 | 12327 | 1.84 | 1.86 | 9850 | 38516 |  | 100 |
|  | 98  | 3021 | 12250 | 1.88 | 1.87 | 9504 | 37911 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2951 | 12817 | 1.88 | 1.98 | 9036 | 37445 |  | 100 |
|  | 99  | 2807 | 11339 | 1.78 | 1.82 | 9444 | 36361 |  | 100 |
|  | 100 | 2949 | 12182 | 1.82 | 1.84 | 9561 | 37731 |  | 100 |
|  | 99  | 2657 | 11108 | 1.69 | 1.74 | 9554 | 37995 |  | 100 |
|  | 99  | 2901 | 11531 | 1.79 | 1.80 | 9691 | 37467 |  | 100 |
|  | 100 | 2900 | 12006 | 1.81 | 1.86 | 9497 | 36923 |  | 100 |
|  | 100 | 3073 | 11661 | 1.89 | 1.84 | 9547 | 36684 |  | 100 |
|  | 99  | 2569 | 11704 | 1.66 | 1.84 | 9508 | 36524 |  | 100 |
|  | 100 | 2879 | 12367 | 1.83 | 1.89 | 9233 | 37952 |  | 100 |
|  | 99  | 2931 | 12500 | 1.85 | 1.88 | 9240 | 38331 |  | 100 |
|  | 100 | 2921 | 12085 | 1.84 | 1.88 | 9352 | 37896 |  | 100 |
|  | 100 | 2797 | 11524 | 1.76 | 1.83 | 9266 | 36973 |  | 100 |
|  | 100 | 2851 | 12527 | 1.80 | 1.88 | 9313 | 38604 |  | 100 |
|  | 99  | 2909 | 11371 | 1.87 | 1.78 | 9186 | 37367 |  | 100 |
|  | 97  | 2880 | 11601 | 1.81 | 1.82 | 9299 | 37306 |  | 100 |
|  | 100 | 3002 | 10707 | 1.86 | 1.75 | 9366 | 36191 |  | 100 |
|  | 99  | 2778 | 11861 | 1.79 | 1.82 | 9340 | 37778 |  | 100 |
|  | 97  | 3084 | 11466 | 1.85 | 1.79 | 9772 | 37642 |  | 100 |
|  | 100 | 2684 | 11601 | 1.73 | 1.78 | 9230 | 37919 |  | 100 |
|  | 99  | 3060 | 11979 | 1.85 | 1.84 | 9796 | 37945 |  | 100 |
|  | 100 | 2757 | 12295 | 1.80 | 1.90 | 9285 | 37095 |  | 100 |
|  | 100 | 2796 | 10878 | 1.74 | 1.74 | 9444 | 37278 |  | 100 |
|  | 97  | 2888 | 11774 | 1.77 | 1.85 | 9564 | 37042 |  | 100 |
|  | 100 | 2750 | 12482 | 1.74 | 1.85 | 9603 | 39236 |  | 100 |
|  | 98  | 3213 | 12614 | 1.94 | 1.95 | 9732 | 37555 |  | 100 |
|  | 100 | 2879 | 12386 | 1.83 | 1.87 | 9290 | 38356 |  | 100 |
|  | 100 | 2881 | 11443 | 1.80 | 1.82 | 9264 | 36420 |  | 100 |
|  | 99  | 2848 | 11419 | 1.83 | 1.81 | 9099 | 36498 |  | 100 |
|  | 100 | 3084 | 12868 | 1.86 | 1.99 | 9755 | 37498 |  | 100 |
|  | 99  | 2998 | 12309 | 1.87 | 1.87 | 9607 | 38205 |  | 100 |
|  | 99  | 2795 | 11277 | 1.79 | 1.75 | 9225 | 37884 |  | 100 |
|  | 100 | 3036 | 12051 | 1.94 | 1.90 | 9110 | 36900 |  | 100 |
|  | 100 | 2976 | 12268 | 1.82 | 1.90 | 9597 | 37113 |  | 100 |
|  | 98  | 2747 | 11096 | 1.78 | 1.78 | 9285 | 36810 |  | 100 |
|  | 100 | 2726 | 11183 | 1.74 | 1.77 | 9296 | 37318 |  | 100 |
|  | 99  | 2924 | 11817 | 1.79 | 1.86 | 9706 | 37461 |  | 100 |
|  | 100 | 2598 | 11324 | 1.70 | 1.77 | 9093 | 37642 |  | 100 |
|  | 100 | 3019 | 12705 | 1.84 | 1.89 | 9677 | 38447 |  | 100 |
|  | 99  | 2808 | 11067 | 1.80 | 1.80 | 9295 | 36427 |  | 100 |
|  | 100 | 2956 | 12317 | 1.80 | 1.89 | 9658 | 37449 |  | 100 |
|  | 100 | 3065 | 12134 | 1.93 | 1.88 | 9288 | 37429 |  | 100 |
|  | 100 | 2932 | 11305 | 1.85 | 1.77 | 9314 | 37625 |  | 100 |
|  | 95  | 3000 | 10785 | 1.82 | 1.72 | 9750 | 37571 |  | 100 |
|  | 99  | 2947 | 11357 | 1.85 | 1.77 | 9305 | 37482 |  | 100 |
|  | 99  | 3019 | 11616 | 1.88 | 1.86 | 9417 | 36181 |  | 100 |
|  | 99  | 2933 | 11693 | 1.84 | 1.83 | 9324 | 37114 |  | 100 |
|  | 100 | 3044 | 12465 | 1.90 | 1.90 | 9467 | 37754 |  | 100 |
|  | 99  | 3016 | 12892 | 1.86 | 1.93 | 9551 | 38100 |  | 100 |
|  | 100 | 2872 | 12398 | 1.84 | 1.91 | 9343 | 37702 |  | 100 |
|  | 99  | 3012 | 11635 | 1.89 | 1.80 | 9410 | 37634 |  | 100 |
|  | 100 | 2921 | 11677 | 1.79 | 1.79 | 9550 | 38083 |  | 100 |
|  | 99  | 3125 | 11949 | 1.91 | 1.80 | 9632 | 38149 |  | 100 |
|  | 100 | 2603 | 11743 | 1.76 | 1.82 | 8937 | 37637 |  | 100 |
|  | 100 | 3228 | 11934 | 1.96 | 1.82 | 9483 | 38212 |  | 100 |
|  | 99  | 3217 | 12013 | 1.97 | 1.88 | 9582 | 37348 |  | 100 |
|  | 99  | 2980 | 11736 | 1.84 | 1.83 | 9626 | 37227 |  | 100 |
|  | 100 | 2828 | 11921 | 1.81 | 1.86 | 9367 | 37268 |  | 100 |
|  | 100 | 2760 | 12307 | 1.80 | 1.84 | 9100 | 38768 |  | 100 |
|  | 99  | 2844 | 11345 | 1.79 | 1.78 | 9604 | 37422 |  | 100 |
|  | 100 | 2726 | 12355 | 1.76 | 1.90 | 9239 | 37311 |  | 100 |
|  | 99  | 3053 | 12027 | 1.92 | 1.85 | 9346 | 37460 |  | 100 |
|  | 99  | 2917 | 11808 | 1.84 | 1.86 | 9351 | 37104 |  | 100 |
|  | 100 | 3069 | 12224 | 1.86 | 1.88 | 9683 | 37763 |  | 100 |
|  | 100 | 2856 | 12138 | 1.82 | 1.87 | 9424 | 37346 |  | 100 |
|  | 100 | 2826 | 12721 | 1.77 | 1.89 | 9456 | 38440 |  | 100 |
|  | 100 | 2923 | 11517 | 1.86 | 1.82 | 9283 | 37094 |  | 100 |
|  | 100 | 2628 | 11856 | 1.71 | 1.86 | 9237 | 37562 |  | 100 |
|  | 100 | 3020 | 11821 | 1.84 | 1.81 | 9676 | 38018 |  | 100 |
|  | 99  | 2891 | 11788 | 1.83 | 1.85 | 9331 | 36876 |  | 100 |
|  | 99  | 2913 | 12101 | 1.82 | 1.85 | 9445 | 37703 |  | 100 |
|  | 100 | 2935 | 12111 | 1.79 | 1.86 | 9685 | 37853 |  | 100 |
|  | 100 | 2866 | 11546 | 1.81 | 1.83 | 9363 | 36064 |  | 100 |
|  | 100 | 2975 | 11162 | 1.88 | 1.79 | 9291 | 36735 |  | 100 |
|  | 99  | 2916 | 12465 | 1.81 | 1.88 | 9472 | 38402 |  | 100 |
|  | 99  | 2714 | 11332 | 1.73 | 1.77 | 9349 | 38034 |  | 100 |
|  | 98  | 3146 | 12230 | 1.92 | 1.83 | 9508 | 39030 |  | 100 |
|  | 100 | 3029 | 12317 | 1.86 | 1.85 | 9720 | 38199 |  | 100 |
|  | 100 | 2860 | 11916 | 1.82 | 1.83 | 9243 | 37674 |  | 100 |
|  | 100 | 2971 | 12303 | 1.83 | 1.88 | 9514 | 38129 |  | 100 |
|  | 100 | 3005 | 11548 | 1.88 | 1.80 | 9336 | 37720 |  | 100 |
|  | 98  | 3170 | 11526 | 1.91 | 1.82 | 9828 | 37087 |  | 100 |
|  | 100 | 2813 | 11837 | 1.77 | 1.88 | 9642 | 36214 |  | 100 |
|  | 100 | 3031 | 11781 | 1.89 | 1.83 | 9406 | 37465 |  | 100 |
|  | 99  | 2771 | 11292 | 1.75 | 1.78 | 9590 | 37224 |  | 100 |
|  | 100 | 2765 | 12065 | 1.77 | 1.83 | 9159 | 38058 |  | 100 |
|  | 99  | 3025 | 11581 | 1.85 | 1.83 | 9567 | 36664 |  | 100 |
|  | 99  | 3087 | 12013 | 1.92 | 1.87 | 9345 | 37239 |  | 100 |
|  | 99  | 2924 | 11783 | 1.81 | 1.81 | 9540 | 38323 |  | 100 |
|  | 100 | 2801 | 12028 | 1.75 | 1.86 | 9658 | 37425 |  | 100 |
|  | 100 | 2875 | 11847 | 1.78 | 1.82 | 9472 | 38051 |  | 100 |
|  | 100 | 2790 | 11380 | 1.78 | 1.84 | 9349 | 36202 |  | 100 |
|  | 100 | 3028 | 11381 | 1.85 | 1.80 | 9657 | 37118 |  | 100 |
|  | 100 | 3133 | 11615 | 1.92 | 1.81 | 9597 | 37885 |  | 100 |
|  | 97  | 2858 | 12742 | 1.81 | 1.94 | 9302 | 38676 |  | 100 |
|  | 100 | 2944 | 12098 | 1.83 | 1.85 | 9575 | 37774 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2807 | 11947 | 1.80 | 1.87 | 9454 | 36985 | 100 |
| 100 | 2867 | 12008 | 1.78 | 1.85 | 9529 | 37443 | 100 |
| 99  | 2940 | 12011 | 1.82 | 1.86 | 9465 | 37727 | 100 |
| 100 | 2946 | 11947 | 1.86 | 1.85 | 9405 | 37576 | 100 |
| 98  | 2952 | 12627 | 1.83 | 1.92 | 9353 | 37775 | 100 |
| 100 | 2954 | 11624 | 1.82 | 1.83 | 9612 | 37169 | 100 |
| 98  | 2935 | 11277 | 1.86 | 1.78 | 9473 | 37593 | 100 |
| 98  | 2822 | 11955 | 1.83 | 1.85 | 9226 | 37484 | 100 |
| 100 | 2962 | 12379 | 1.87 | 1.89 | 9382 | 37981 | 100 |
| 100 | 2892 | 12153 | 1.85 | 1.84 | 9261 | 38006 | 100 |
| 100 | 2755 | 12188 | 1.78 | 1.83 | 9357 | 38636 | 100 |
| 98  | 2907 | 11124 | 1.81 | 1.79 | 9505 | 36249 | 100 |
| 99  | 3129 | 11817 | 1.94 | 1.82 | 9359 | 37603 | 100 |
| 100 | 2725 | 11598 | 1.75 | 1.79 | 9444 | 37623 | 100 |
| 100 | 2988 | 11442 | 1.87 | 1.81 | 9456 | 36476 | 100 |
| 98  | 2829 | 11540 | 1.81 | 1.80 | 9454 | 37677 | 100 |
| 99  | 3037 | 11758 | 1.90 | 1.82 | 9428 | 37273 | 100 |
| 100 | 2793 | 11454 | 1.81 | 1.80 | 9239 | 37365 | 100 |
| 98  | 2953 | 11492 | 1.85 | 1.82 | 9321 | 36630 | 100 |
| 100 | 2823 | 11860 | 1.79 | 1.80 | 9519 | 38164 | 100 |
| 99  | 3137 | 12133 | 1.88 | 1.83 | 9676 | 37752 | 100 |
| 100 | 2921 | 11620 | 1.82 | 1.79 | 9475 | 38080 | 100 |
| 100 | 2831 | 12033 | 1.76 | 1.87 | 9567 | 37735 | 100 |
| 100 | 2729 | 11168 | 1.73 | 1.77 | 9540 | 36915 | 100 |
| 99  | 2918 | 11828 | 1.85 | 1.87 | 9153 | 36855 | 100 |
| 99  | 2878 | 11863 | 1.79 | 1.84 | 9511 | 37936 | 100 |
| 100 | 3046 | 11145 | 1.90 | 1.76 | 9483 | 37447 | 100 |
| 100 | 2911 | 11877 | 1.82 | 1.84 | 9434 | 37302 | 100 |
| 100 | 2855 | 11989 | 1.84 | 1.85 | 9192 | 37403 | 100 |
| 98  | 3056 | 11166 | 1.87 | 1.75 | 9638 | 37409 | 100 |
| 96  | 3014 | 11332 | 1.83 | 1.78 | 9632 | 37120 | 100 |
| 100 | 3033 | 11877 | 1.85 | 1.84 | 9629 | 37432 | 100 |
| 98  | 3046 | 11620 | 1.89 | 1.82 | 9407 | 36720 | 100 |
| 99  | 2795 | 12095 | 1.77 | 1.87 | 9423 | 37794 | 100 |
| 99  | 2984 | 12085 | 1.86 | 1.85 | 9576 | 37857 | 100 |
| 98  | 2985 | 11290 | 1.88 | 1.79 | 9475 | 36910 | 100 |
| 99  | 2845 | 11018 | 1.81 | 1.70 | 9164 | 38523 | 100 |
| 100 | 2815 | 11952 | 1.80 | 1.85 | 9368 | 37330 | 100 |
| 100 | 2886 | 11899 | 1.84 | 1.86 | 9440 | 37556 | 100 |
| 98  | 2956 | 11585 | 1.86 | 1.80 | 9316 | 37845 | 100 |
| 97  | 2904 | 12417 | 1.86 | 1.90 | 9143 | 37767 | 100 |
| 99  | 2849 | 12286 | 1.80 | 1.88 | 9321 | 38119 | 100 |
| 99  | 3070 | 11622 | 1.92 | 1.78 | 9432 | 38026 | 100 |
| 100 | 3023 | 12559 | 1.86 | 1.90 | 9521 | 38273 | 100 |
| 99  | 3024 | 12208 | 1.94 | 1.84 | 9158 | 39026 | 100 |
| 100 | 2851 | 11535 | 1.78 | 1.81 | 9539 | 37426 | 100 |
| 99  | 3046 | 12302 | 1.90 | 1.91 | 9434 | 37505 | 100 |
| 100 | 2580 | 11819 | 1.66 | 1.86 | 9472 | 36730 | 100 |
| 100 | 3143 | 11466 | 1.94 | 1.79 | 9453 | 37563 | 100 |
| 100 | 2905 | 11800 | 1.87 | 1.82 | 9131 | 37918 | 100 |
| 98  | 3050 | 10914 | 1.84 | 1.78 | 9710 | 36344 | 100 |
| 99  | 2786 | 12058 | 1.76 | 1.84 | 9434 | 38080 | 100 |
| 100 | 2794 | 12180 | 1.83 | 1.82 | 9102 | 38903 | 100 |
| 98  | 2964 | 10818 | 1.79 | 1.75 | 9776 | 36447 | 100 |
| 100 | 2794 | 11493 | 1.76 | 1.81 | 9406 | 37616 | 100 |
| 98  | 2882 | 11269 | 1.83 | 1.81 | 9436 | 36566 | 100 |
| 100 | 2902 | 11607 | 1.86 | 1.81 | 9192 | 36823 | 100 |
| 99  | 2942 | 11334 | 1.81 | 1.79 | 9541 | 37054 | 100 |
| 99  | 2791 | 11786 | 1.76 | 1.81 | 9287 | 37578 | 100 |
| 99  | 2853 | 11905 | 1.78 | 1.85 | 9522 | 36925 | 100 |
| 99  | 2998 | 11913 | 1.85 | 1.82 | 9586 | 38036 | 100 |
| 100 | 2840 | 11584 | 1.81 | 1.79 | 9345 | 37792 | 100 |
| 100 | 2796 | 11824 | 1.81 | 1.84 | 9023 | 37382 | 100 |
| 100 | 2804 | 12253 | 1.75 | 1.88 | 9654 | 37547 | 100 |
| 100 | 3070 | 11745 | 1.88 | 1.81 | 9690 | 37717 | 100 |
| 99  | 2967 | 12186 | 1.83 | 1.87 | 9496 | 38041 | 100 |
| 99  | 2798 | 12151 | 1.74 | 1.89 | 9464 | 37097 | 100 |
| 99  | 2758 | 11852 | 1.77 | 1.85 | 9324 | 37461 | 100 |
| 100 | 3001 | 12126 | 1.83 | 1.88 | 9587 | 37304 | 100 |
| 99  | 2888 | 12127 | 1.82 | 1.87 | 9336 | 37504 | 100 |
| 99  | 2872 | 11608 | 1.77 | 1.79 | 9568 | 37743 | 100 |
| 100 | 2906 | 11217 | 1.81 | 1.74 | 9542 | 38531 | 100 |
| 100 | 2820 | 11619 | 1.82 | 1.85 | 8977 | 36792 | 100 |
| 99  | 2780 | 11359 | 1.73 | 1.78 | 9643 | 37434 | 100 |
| 100 | 2848 | 11567 | 1.84 | 1.83 | 9149 | 36819 | 100 |
| 99  | 2809 | 11308 | 1.80 | 1.78 | 9199 | 37084 | 100 |
| 99  | 3037 | 11780 | 1.85 | 1.89 | 9730 | 36887 | 100 |
| 98  | 2807 | 11916 | 1.75 | 1.85 | 9874 | 37670 | 100 |
| 99  | 2895 | 11315 | 1.85 | 1.83 | 9139 | 35913 | 100 |
| 100 | 2775 | 11538 | 1.76 | 1.80 | 9540 | 37206 | 100 |
| 100 | 3086 | 12089 | 1.91 | 1.84 | 9412 | 38015 | 100 |
| 98  | 2982 | 11698 | 1.84 | 1.78 | 9404 | 38064 | 100 |
| 97  | 3145 | 11883 | 1.92 | 1.86 | 9483 | 37063 | 100 |
| 100 | 2995 | 12085 | 1.84 | 1.89 | 9560 | 37651 | 100 |
| 100 | 2969 | 12041 | 1.88 | 1.85 | 9279 | 37794 | 100 |
| 100 | 2814 | 11512 | 1.81 | 1.80 | 9192 | 37123 | 100 |
| 100 | 2774 | 12294 | 1.76 | 1.87 | 9451 | 38239 | 100 |
| 100 | 2952 | 11229 | 1.85 | 1.77 | 9325 | 36913 | 100 |
| 99  | 2817 | 11833 | 1.79 | 1.84 | 9294 | 37483 | 100 |
| 98  | 2976 | 11711 | 1.82 | 1.84 | 9574 | 37478 | 100 |
| 99  | 2992 | 11389 | 1.82 | 1.79 | 9882 | 37960 | 100 |
| 99  | 2828 | 11554 | 1.79 | 1.84 | 9407 | 36192 | 100 |
| 100 | 2792 | 12222 | 1.82 | 1.88 | 9157 | 37742 | 100 |
| 99  | 2853 | 11833 | 1.82 | 1.85 | 9454 | 37688 | 100 |
| 99  | 2825 | 11836 | 1.80 | 1.83 | 9292 | 37761 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2883 | 12283 | 1.84 | 1.88 | 9373 | 37394 |  | 100 |
|  | 98  | 2953 | 11628 | 1.90 | 1.84 | 9338 | 37023 |  | 100 |
|  | 98  | 2845 | 11790 | 1.78 | 1.86 | 9290 | 37153 |  | 100 |
|  | 99  | 2784 | 11848 | 1.75 | 1.84 | 9770 | 37184 |  | 100 |
|  | 100 | 2920 | 11963 | 1.86 | 1.84 | 9227 | 37843 |  | 100 |
|  | 100 | 2873 | 11996 | 1.80 | 1.85 | 9330 | 37808 |  | 100 |
|  | 99  | 2865 | 12312 | 1.80 | 1.88 | 9323 | 37514 |  | 100 |
|  | 99  | 3133 | 11896 | 1.99 | 1.80 | 9285 | 38356 |  | 100 |
|  | 99  | 2874 | 12351 | 1.82 | 1.91 | 9367 | 38019 |  | 100 |
|  | 100 | 2926 | 11780 | 1.83 | 1.83 | 9359 | 37183 |  | 100 |
|  | 99  | 2820 | 11165 | 1.78 | 1.78 | 9367 | 36245 |  | 100 |
|  | 99  | 2994 | 11819 | 1.85 | 1.81 | 9551 | 37897 |  | 100 |
|  | 100 | 2940 | 12914 | 1.79 | 1.92 | 9720 | 38567 |  | 100 |
|  | 100 | 2822 | 12012 | 1.79 | 1.81 | 9555 | 38308 |  | 100 |
|  | 98  | 2988 | 12480 | 1.82 | 1.89 | 9581 | 38081 |  | 100 |
|  | 100 | 2753 | 12186 | 1.77 | 1.82 | 9239 | 39126 |  | 100 |
|  | 99  | 3010 | 11860 | 1.81 | 1.83 | 9635 | 37499 |  | 100 |
|  | 100 | 3148 | 12181 | 1.90 | 1.87 | 9839 | 37486 |  | 100 |
|  | 98  | 2859 | 12042 | 1.82 | 1.85 | 9364 | 37764 |  | 100 |
|  | 99  | 2924 | 11546 | 1.82 | 1.81 | 9476 | 37635 |  | 100 |
|  | 100 | 3099 | 11743 | 1.88 | 1.84 | 9916 | 37136 |  | 100 |
|  | 100 | 2949 | 11533 | 1.83 | 1.81 | 9474 | 36921 |  | 100 |
|  | 100 | 2737 | 12257 | 1.73 | 1.92 | 9496 | 37031 |  | 100 |
|  | 96  | 2980 | 12071 | 1.89 | 1.86 | 9267 | 37922 |  | 100 |
|  | 100 | 2906 | 12221 | 1.80 | 1.86 | 9687 | 37852 |  | 100 |
|  | 99  | 2858 | 11968 | 1.74 | 1.83 | 9669 | 37865 |  | 100 |
|  | 100 | 2953 | 11702 | 1.88 | 1.81 | 9326 | 38149 |  | 100 |
|  | 100 | 2962 | 11694 | 1.85 | 1.82 | 9421 | 37471 |  | 100 |
|  | 100 | 2947 | 11744 | 1.83 | 1.82 | 9635 | 38199 |  | 100 |
|  | 99  | 2764 | 11464 | 1.76 | 1.80 | 9567 | 37086 |  | 100 |
|  | 100 | 2983 | 11028 | 1.85 | 1.77 | 9615 | 36327 |  | 100 |
|  | 98  | 3117 | 12697 | 1.88 | 1.93 | 9659 | 37634 |  | 100 |
|  | 100 | 2835 | 11842 | 1.79 | 1.83 | 9526 | 37827 |  | 100 |
|  | 100 | 2863 | 11877 | 1.81 | 1.84 | 9253 | 37593 |  | 100 |
|  | 98  | 3132 | 11300 | 1.94 | 1.79 | 9408 | 37207 |  | 100 |
|  | 99  | 3054 | 12509 | 1.88 | 1.92 | 9478 | 37368 |  | 100 |
|  | 100 | 2647 | 11549 | 1.69 | 1.85 | 9365 | 36791 |  | 100 |
|  | 100 | 2726 | 11699 | 1.73 | 1.82 | 9515 | 37533 |  | 100 |
|  | 98  | 2805 | 11721 | 1.80 | 1.82 | 9447 | 37580 |  | 100 |
|  | 100 | 3037 | 11787 | 1.91 | 1.82 | 9446 | 37316 |  | 100 |
|  | 98  | 2928 | 11576 | 1.82 | 1.81 | 9426 | 36685 |  | 100 |
|  | 100 | 3057 | 11654 | 1.88 | 1.80 | 9629 | 37578 |  | 100 |
|  | 99  | 3181 | 12183 | 2.01 | 1.87 | 9238 | 37760 |  | 100 |
|  | 99  | 2950 | 10977 | 1.85 | 1.75 | 9463 | 37169 |  | 100 |
|  | 99  | 2722 | 11380 | 1.74 | 1.81 | 9533 | 36678 |  | 100 |
|  | 98  | 2834 | 11392 | 1.79 | 1.79 | 9320 | 37293 |  | 100 |
|  | 99  | 2991 | 11713 | 1.82 | 1.79 | 9799 | 38328 |  | 100 |
|  | 100 | 3009 | 11774 | 1.89 | 1.81 | 9276 | 37868 |  | 100 |
|  | 100 | 2863 | 11879 | 1.83 | 1.84 | 9417 | 37417 |  | 100 |
|  | 98  | 2834 | 12108 | 1.80 | 1.89 | 9406 | 36871 |  | 100 |
|  | 100 | 2867 | 12138 | 1.79 | 1.87 | 9407 | 37877 |  | 100 |
|  | 99  | 3040 | 12880 | 1.90 | 1.95 | 9486 | 37976 |  | 100 |
|  | 98  | 2887 | 12038 | 1.78 | 1.89 | 9612 | 36735 |  | 100 |
|  | 100 | 2966 | 11770 | 1.82 | 1.84 | 9492 | 37055 |  | 100 |
|  | 99  | 2963 | 11709 | 1.86 | 1.81 | 9366 | 37241 |  | 100 |
|  | 99  | 2943 | 11540 | 1.83 | 1.80 | 9467 | 37356 |  | 100 |
|  | 99  | 2841 | 11895 | 1.81 | 1.81 | 9311 | 38410 |  | 100 |
|  | 100 | 2697 | 12281 | 1.74 | 1.85 | 9493 | 38454 |  | 100 |
|  | 99  | 2799 | 12544 | 1.76 | 1.92 | 9446 | 37752 |  | 100 |
|  | 100 | 2971 | 11595 | 1.87 | 1.76 | 9383 | 38293 |  | 100 |
|  | 99  | 3079 | 12221 | 1.87 | 1.88 | 9735 | 37538 |  | 100 |
|  | 95  | 2890 | 10993 | 1.81 | 1.77 | 9433 | 36149 |  | 100 |
|  | 100 | 2791 | 11509 | 1.79 | 1.83 | 9308 | 36641 |  | 100 |
|  | 99  | 2761 | 11543 | 1.80 | 1.81 | 9193 | 37576 |  | 100 |
|  | 100 | 2886 | 11937 | 1.82 | 1.83 | 9509 | 37935 |  | 100 |
|  | 99  | 3006 | 11929 | 1.86 | 1.82 | 9610 | 37670 |  | 100 |
|  | 100 | 2767 | 11809 | 1.73 | 1.79 | 9649 | 38267 |  | 100 |
|  | 98  | 2836 | 11237 | 1.83 | 1.77 | 9071 | 37035 |  | 100 |
|  | 100 | 2692 | 11378 | 1.73 | 1.81 | 9207 | 36766 |  | 100 |
|  | 97  | 3163 | 11667 | 1.92 | 1.85 | 9657 | 36426 |  | 100 |
|  | 100 | 2743 | 11445 | 1.75 | 1.77 | 9342 | 37612 |  | 100 |
|  | 100 | 2882 | 11957 | 1.80 | 1.87 | 9337 | 36957 |  | 100 |
|  | 100 | 2939 | 11242 | 1.86 | 1.78 | 9506 | 37069 |  | 100 |
|  | 100 | 2951 | 11690 | 1.85 | 1.81 | 9230 | 37827 |  | 100 |
|  | 99  | 2840 | 11902 | 1.83 | 1.84 | 9306 | 37499 |  | 100 |
|  | 100 | 2872 | 11935 | 1.78 | 1.84 | 9438 | 37594 |  | 100 |
|  | 100 | 3023 | 12293 | 1.88 | 1.87 | 9340 | 38140 |  | 100 |
|  | 99  | 3006 | 11418 | 1.80 | 1.77 | 9927 | 37656 |  | 100 |
|  | 100 | 3071 | 11639 | 1.86 | 1.82 | 9684 | 37332 |  | 100 |
|  | 99  | 2898 | 11369 | 1.82 | 1.78 | 9371 | 37423 |  | 100 |
|  | 100 | 2956 | 12057 | 1.85 | 1.89 | 9459 | 37122 |  | 100 |
|  | 99  | 2989 | 12462 | 1.83 | 1.93 | 9721 | 37044 |  | 100 |
|  | 99  | 2922 | 11644 | 1.82 | 1.85 | 9615 | 36797 |  | 100 |
|  | 100 | 2757 | 11957 | 1.79 | 1.80 | 9305 | 38638 |  | 100 |
|  | 100 | 2905 | 12582 | 1.82 | 1.92 | 9504 | 37424 |  | 100 |
|  | 99  | 2926 | 11859 | 1.85 | 1.84 | 9524 | 37317 |  | 100 |
|  | 100 | 2679 | 11594 | 1.74 | 1.81 | 9423 | 37413 |  | 100 |
|  | 97  | 2936 | 11640 | 1.84 | 1.86 | 9627 | 36399 |  | 100 |
|  | 99  | 2765 | 11222 | 1.74 | 1.80 | 9367 | 36536 |  | 100 |
|  | 99  | 2842 | 12802 | 1.80 | 1.96 | 9397 | 37665 |  | 100 |
|  | 100 | 2951 | 11550 | 1.80 | 1.83 | 9619 | 36615 |  | 100 |
|  | 100 | 2689 | 11824 | 1.76 | 1.82 | 9244 | 37289 |  | 100 |
|  | 100 | 3073 | 11432 | 1.88 | 1.79 | 9483 | 37460 |  | 100 |
|  | 99  | 3063 | 11909 | 1.88 | 1.84 | 9516 | 37489 |  | 100 |
|  | 99  | 3012 | 11256 | 1.85 | 1.80 | 9621 | 37346 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 3042 | 11402 | 1.91 | 1.77 | 9216 | 37836 | 100 |
|  | 100 | 2930 | 11772 | 1.83 | 1.84 | 9381 | 36998 | 100 |
|  | 98  | 3142 | 11253 | 1.88 | 1.77 | 9686 | 36990 | 100 |
|  | 100 | 2852 | 11283 | 1.78 | 1.79 | 9405 | 37198 | 100 |
|  | 100 | 2728 | 11677 | 1.75 | 1.83 | 9528 | 36945 | 100 |
|  | 100 | 3029 | 11594 | 1.80 | 1.81 | 9815 | 37059 | 100 |
|  | 99  | 2684 | 12379 | 1.71 | 1.93 | 9352 | 36952 | 100 |
|  | 100 | 2841 | 12078 | 1.81 | 1.84 | 9423 | 38149 | 100 |
|  | 100 | 2798 | 11824 | 1.78 | 1.85 | 9306 | 37149 | 100 |
|  | 99  | 2948 | 11478 | 1.85 | 1.82 | 9341 | 36711 | 100 |
|  | 100 | 2919 | 12335 | 1.81 | 1.91 | 9518 | 37504 | 100 |
|  | 99  | 2691 | 10754 | 1.76 | 1.71 | 9139 | 37584 | 100 |
|  | 98  | 2899 | 11886 | 1.81 | 1.87 | 9428 | 37184 | 100 |
|  | 99  | 2922 | 11232 | 1.84 | 1.79 | 9315 | 36643 | 100 |
|  | 100 | 2847 | 12004 | 1.82 | 1.83 | 9231 | 37650 | 100 |
|  | 99  | 2777 | 11521 | 1.81 | 1.81 | 9206 | 36786 | 100 |
|  | 100 | 2871 | 11638 | 1.83 | 1.83 | 9370 | 37103 | 100 |
|  | 98  | 3015 | 12117 | 1.84 | 1.85 | 9570 | 38233 | 100 |
|  | 100 | 2687 | 11572 | 1.69 | 1.81 | 9560 | 37343 | 100 |
|  | 100 | 2869 | 12104 | 1.79 | 1.87 | 9508 | 37470 | 100 |
|  | 100 | 3040 | 11870 | 1.84 | 1.82 | 9573 | 37988 | 100 |
|  | 100 | 2777 | 11490 | 1.76 | 1.81 | 9597 | 37161 | 100 |
|  | 98  | 2989 | 11496 | 1.86 | 1.81 | 9496 | 37160 | 100 |
|  | 99  | 2881 | 11786 | 1.77 | 1.84 | 9555 | 36778 | 100 |
|  | 99  | 2731 | 12134 | 1.75 | 1.83 | 9575 | 38130 | 100 |
|  | 100 | 2895 | 11677 | 1.81 | 1.83 | 9520 | 37138 | 100 |
|  | 100 | 2848 | 11710 | 1.80 | 1.85 | 9367 | 37210 | 100 |
|  | 99  | 2802 | 11520 | 1.78 | 1.81 | 9531 | 37577 | 100 |
|  | 99  | 2833 | 11497 | 1.83 | 1.77 | 9296 | 37774 | 100 |
|  | 99  | 2954 | 12055 | 1.82 | 1.87 | 9590 | 37456 | 100 |
|  | 99  | 2771 | 12797 | 1.77 | 1.90 | 9387 | 38480 | 100 |
|  | 100 | 2939 | 12023 | 1.84 | 1.82 | 9659 | 38566 | 100 |
|  | 100 | 2831 | 11334 | 1.81 | 1.78 | 9240 | 37352 | 100 |
|  | 98  | 3023 | 11100 | 1.88 | 1.74 | 9410 | 37797 | 100 |
|  | 100 | 2907 | 11106 | 1.84 | 1.73 | 9391 | 37645 | 100 |
|  | 100 | 2947 | 11812 | 1.89 | 1.82 | 9274 | 37644 | 100 |
|  | 100 | 2895 | 11695 | 1.88 | 1.83 | 9185 | 36671 | 100 |
|  | 98  | 2874 | 12155 | 1.80 | 1.87 | 9575 | 37467 | 100 |
|  | 100 | 2976 | 12066 | 1.85 | 1.90 | 9370 | 36672 | 100 |
|  | 100 | 2842 | 11734 | 1.74 | 1.82 | 9625 | 37813 | 100 |
|  | 100 | 3033 | 12132 | 1.89 | 1.83 | 9345 | 38106 | 100 |
|  | 100 | 2919 | 11435 | 1.85 | 1.82 | 9317 | 36861 | 100 |
|  | 100 | 2877 | 12441 | 1.83 | 1.88 | 9331 | 37957 | 100 |
|  | 99  | 2959 | 11738 | 1.82 | 1.83 | 9592 | 37285 | 100 |
|  | 99  | 3003 | 12597 | 1.86 | 1.92 | 9365 | 37389 | 100 |
|  | 100 | 2874 | 11801 | 1.77 | 1.82 | 9670 | 37478 | 100 |
|  | 99  | 2891 | 11387 | 1.78 | 1.79 | 9644 | 37893 | 100 |
|  | 100 | 2788 | 12560 | 1.78 | 1.89 | 9299 | 38131 | 100 |
|  | 100 | 2967 | 11330 | 1.85 | 1.77 | 9232 | 37556 | 100 |
|  | 99  | 2781 | 11518 | 1.75 | 1.80 | 9354 | 37363 | 100 |
|  | 100 | 2945 | 12348 | 1.83 | 1.90 | 9465 | 37604 | 100 |
|  | 100 | 2748 | 11784 | 1.76 | 1.81 | 9424 | 38300 | 100 |
|  | 99  | 2939 | 11418 | 1.86 | 1.82 | 9451 | 36544 | 100 |
|  | 100 | 2997 | 11281 | 1.83 | 1.77 | 9584 | 37346 | 100 |
|  | 100 | 2943 | 11387 | 1.84 | 1.82 | 9420 | 36950 | 100 |
|  | 99  | 2841 | 12050 | 1.76 | 1.89 | 9488 | 36963 | 100 |
|  | 99  | 2951 | 13030 | 1.87 | 2.00 | 9407 | 37514 | 100 |
|  | 100 | 2838 | 11533 | 1.78 | 1.78 | 9481 | 37667 | 100 |
|  | 99  | 2731 | 11980 | 1.77 | 1.84 | 9162 | 37974 | 100 |
|  | 99  | 2913 | 12196 | 1.79 | 1.86 | 9676 | 37779 | 100 |
|  | 99  | 3018 | 11774 | 1.88 | 1.81 | 9433 | 38005 | 100 |
|  | 99  | 3061 | 11317 | 1.92 | 1.80 | 9440 | 36777 | 100 |
|  | 99  | 3088 | 11649 | 1.87 | 1.80 | 9599 | 37614 | 100 |
|  | 99  | 2749 | 11267 | 1.74 | 1.77 | 9598 | 37156 | 100 |
|  | 100 | 2727 | 12166 | 1.76 | 1.90 | 9286 | 37168 | 100 |
|  | 100 | 2846 | 12559 | 1.76 | 1.90 | 9657 | 38065 | 100 |
|  | 98  | 2822 | 11921 | 1.79 | 1.86 | 9446 | 37210 | 100 |
|  | 99  | 2898 | 12436 | 1.82 | 1.89 | 9142 | 38314 | 100 |
|  | 100 | 2821 | 12074 | 1.81 | 1.85 | 9328 | 37993 | 100 |
|  | 100 | 3087 | 11654 | 1.97 | 1.82 | 9152 | 37560 | 100 |
|  | 100 | 2950 | 11673 | 1.86 | 1.80 | 9345 | 37332 | 100 |
|  | 99  | 2878 | 11499 | 1.87 | 1.82 | 9127 | 37741 | 100 |
|  | 99  | 2956 | 11427 | 1.85 | 1.78 | 9300 | 37599 | 100 |
|  | 100 | 2818 | 11983 | 1.79 | 1.86 | 9344 | 37529 | 100 |
|  | 99  | 2879 | 11239 | 1.83 | 1.79 | 9239 | 36716 | 100 |
|  | 100 | 3015 | 12478 | 1.87 | 1.90 | 9344 | 37702 | 100 |
|  | 100 | 2851 | 11565 | 1.81 | 1.82 | 9344 | 36997 | 100 |
|  | 99  | 3079 | 11203 | 1.84 | 1.80 | 9657 | 36438 | 100 |
|  | 99  | 2834 | 11715 | 1.75 | 1.88 | 9666 | 36185 | 100 |
|  | 98  | 2946 | 12762 | 1.87 | 1.95 | 9182 | 37444 | 100 |
|  | 99  | 2826 | 12128 | 1.77 | 1.86 | 9608 | 37424 | 100 |
|  | 100 | 2896 | 12450 | 1.84 | 1.90 | 9132 | 38642 | 100 |
|  | 100 | 2693 | 11201 | 1.77 | 1.76 | 9264 | 37483 | 100 |
|  | 100 | 2955 | 11667 | 1.85 | 1.87 | 9406 | 36431 | 100 |
|  | 100 | 2900 | 12361 | 1.85 | 1.87 | 9432 | 37778 | 100 |
|  | 100 | 2755 | 11449 | 1.78 | 1.73 | 9186 | 38656 | 100 |
|  | 99  | 2702 | 11743 | 1.75 | 1.84 | 9158 | 37422 | 100 |
|  | 99  | 3085 | 11798 | 1.93 | 1.82 | 9386 | 37124 | 100 |
|  | 99  | 2910 | 12114 | 1.80 | 1.87 | 9565 | 37218 | 100 |
|  | 100 | 2865 | 11498 | 1.82 | 1.81 | 9502 | 37088 | 100 |
|  | 100 | 2852 | 12297 | 1.80 | 1.88 | 9390 | 37483 | 100 |
|  | 100 | 2734 | 11873 | 1.80 | 1.84 | 9117 | 37295 | 100 |
|  | 100 | 3003 | 11364 | 1.88 | 1.78 | 9254 | 37395 | 100 |
|  | 100 | 2939 | 11613 | 1.82 | 1.80 | 9576 | 37627 | 100 |
|  | 100 | 2874 | 11542 | 1.84 | 1.80 | 9227 | 38002 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 2927 | 11936 | 1.82 | 1.85 | 9390 | 37295 | 100 |
|  | 100 | 2984 | 11112 | 1.91 | 1.74 | 9237 | 37439 | 100 |
|  | 99  | 2916 | 12039 | 1.82 | 1.85 | 9459 | 37338 | 100 |
|  | 98  | 2817 | 11601 | 1.83 | 1.81 | 9201 | 37933 | 100 |
|  | 99  | 2734 | 11250 | 1.74 | 1.79 | 9321 | 36995 | 100 |
|  | 99  | 3040 | 11527 | 1.85 | 1.84 | 9610 | 37204 | 100 |
|  | 100 | 2739 | 11724 | 1.76 | 1.79 | 9411 | 38363 | 100 |
|  | 99  | 2824 | 11419 | 1.79 | 1.82 | 9410 | 36960 | 100 |
|  | 100 | 3012 | 11675 | 1.84 | 1.83 | 9702 | 37298 | 100 |
|  | 100 | 3124 | 12190 | 1.92 | 1.89 | 9613 | 37346 | 100 |
|  | 100 | 2854 | 12979 | 1.80 | 1.97 | 9382 | 37934 | 100 |
|  | 99  | 2717 | 12001 | 1.71 | 1.87 | 9572 | 36967 | 100 |
|  | 99  | 3144 | 11902 | 1.99 | 1.87 | 9389 | 37177 | 100 |
|  | 100 | 2936 | 11273 | 1.81 | 1.80 | 9571 | 36852 | 100 |
|  | 98  | 3133 | 11306 | 1.89 | 1.78 | 9813 | 37378 | 100 |
|  | 99  | 2888 | 11165 | 1.90 | 1.76 | 8940 | 37580 | 100 |
|  | 99  | 2846 | 12073 | 1.84 | 1.83 | 9153 | 38084 | 100 |
|  | 100 | 2826 | 12081 | 1.88 | 1.81 | 9047 | 38469 | 100 |
|  | 100 | 3041 | 12116 | 1.90 | 1.87 | 9432 | 37333 | 100 |
|  | 99  | 3036 | 11652 | 1.87 | 1.83 | 9332 | 36965 | 100 |
|  | 100 | 2994 | 11801 | 1.86 | 1.83 | 9461 | 37470 | 100 |
|  | 99  | 2986 | 11493 | 1.87 | 1.82 | 9420 | 37086 | 100 |
|  | 100 | 3080 | 11416 | 1.88 | 1.81 | 9634 | 36583 | 100 |
|  | 100 | 2699 | 11829 | 1.72 | 1.79 | 9485 | 38304 | 100 |
|  | 100 | 2841 | 11543 | 1.78 | 1.85 | 9498 | 36400 | 100 |
|  | 100 | 2934 | 12668 | 1.87 | 1.93 | 9412 | 37594 | 100 |
|  | 99  | 2848 | 11692 | 1.80 | 1.84 | 9337 | 36692 | 100 |
|  | 100 | 2837 | 11978 | 1.84 | 1.82 | 9111 | 38354 | 100 |
|  | 100 | 2869 | 11601 | 1.84 | 1.82 | 9124 | 37145 | 100 |
|  | 100 | 3086 | 11776 | 1.90 | 1.82 | 9558 | 37580 | 100 |
|  | 100 | 3012 | 11558 | 1.85 | 1.81 | 9616 | 37324 | 100 |
|  | 100 | 3007 | 12073 | 1.84 | 1.86 | 9734 | 37539 | 100 |
|  | 100 | 3019 | 11519 | 1.87 | 1.79 | 9535 | 37483 | 100 |
|  | 99  | 2900 | 11970 | 1.81 | 1.85 | 9501 | 37724 | 100 |
|  | 100 | 2841 | 12758 | 1.80 | 1.92 | 9314 | 38202 | 100 |
|  | 100 | 2789 | 11257 | 1.80 | 1.80 | 9098 | 36916 | 100 |
|  | 97  | 3190 | 12674 | 1.97 | 1.93 | 9342 | 38005 | 100 |
|  | 99  | 2940 | 12931 | 1.84 | 1.96 | 9601 | 38079 | 100 |
|  | 100 | 2769 | 12642 | 1.75 | 1.92 | 9481 | 38097 | 100 |
|  | 100 | 3023 | 12088 | 1.84 | 1.89 | 9675 | 36864 | 100 |
|  | 100 | 2917 | 11513 | 1.81 | 1.82 | 9416 | 37215 | 100 |
|  | 100 | 2886 | 12019 | 1.82 | 1.85 | 9471 | 37357 | 100 |
|  | 100 | 2880 | 11732 | 1.80 | 1.82 | 9542 | 37681 | 100 |
|  | 99  | 2974 | 11934 | 1.85 | 1.87 | 9475 | 37050 | 100 |
|  | 99  | 2887 | 12227 | 1.79 | 1.90 | 9704 | 37109 | 100 |
|  | 99  | 3025 | 11602 | 1.88 | 1.82 | 9414 | 37064 | 100 |
|  | 99  | 2884 | 11935 | 1.81 | 1.86 | 9341 | 36880 | 100 |
|  | 100 | 2715 | 12491 | 1.77 | 1.91 | 9219 | 37653 | 100 |
|  | 100 | 2989 | 12103 | 1.89 | 1.88 | 9301 | 37049 | 100 |
|  | 99  | 2955 | 11856 | 1.82 | 1.85 | 9479 | 37624 | 100 |
|  | 99  | 2873 | 12331 | 1.80 | 1.85 | 9589 | 38804 | 100 |
|  | 100 | 2645 | 11654 | 1.73 | 1.84 | 9168 | 37195 | 100 |
|  | 99  | 2807 | 11442 | 1.79 | 1.76 | 9368 | 37899 | 100 |
|  | 99  | 3123 | 12420 | 1.91 | 1.90 | 9513 | 37924 | 100 |
|  | 100 | 2910 | 11808 | 1.84 | 1.81 | 9309 | 37897 | 100 |
|  | 100 | 2948 | 11254 | 1.87 | 1.72 | 9402 | 38683 | 100 |
|  | 99  | 2849 | 12703 | 1.80 | 1.95 | 9381 | 37232 | 100 |
|  | 100 | 2700 | 11318 | 1.75 | 1.76 | 9409 | 37820 | 100 |
|  | 100 | 3123 | 11957 | 1.94 | 1.81 | 9346 | 38458 | 100 |
|  | 100 | 2831 | 11703 | 1.85 | 1.83 | 8977 | 36834 | 100 |
|  | 100 | 2716 | 11621 | 1.76 | 1.80 | 9265 | 37939 | 100 |
|  | 100 | 2995 | 11973 | 1.88 | 1.84 | 9361 | 37794 | 100 |
|  | 98  | 3088 | 12068 | 1.88 | 1.84 | 9484 | 37614 | 100 |
|  | 100 | 2827 | 11507 | 1.83 | 1.77 | 9306 | 38446 | 100 |
|  | 99  | 2645 | 11379 | 1.74 | 1.77 | 9231 | 37722 | 100 |
|  | 100 | 3035 | 11273 | 1.88 | 1.79 | 9674 | 37224 | 100 |
|  | 100 | 2932 | 11678 | 1.82 | 1.82 | 9424 | 37146 | 100 |
|  | 100 | 2935 | 11610 | 1.84 | 1.78 | 9485 | 38359 | 100 |
|  | 100 | 2776 | 11622 | 1.76 | 1.83 | 9471 | 37055 | 100 |
|  | 100 | 2940 | 12165 | 1.81 | 1.86 | 9568 | 37473 | 100 |
|  | 100 | 2856 | 12075 | 1.76 | 1.83 | 9505 | 38058 | 100 |
|  | 98  | 2983 | 13040 | 1.86 | 1.92 | 9528 | 38816 | 100 |
|  | 100 | 2852 | 11993 | 1.78 | 1.84 | 9492 | 37584 | 100 |
|  | 99  | 2650 | 11314 | 1.74 | 1.79 | 9143 | 37042 | 100 |
|  | 100 | 2883 | 11789 | 1.78 | 1.82 | 9565 | 38137 | 100 |
|  | 100 | 3152 | 12009 | 1.92 | 1.88 | 9527 | 37052 | 100 |
|  | 100 | 3088 | 11556 | 1.87 | 1.82 | 9712 | 36745 | 100 |
|  | 100 | 2780 | 11422 | 1.76 | 1.81 | 9507 | 37086 | 100 |
|  | 99  | 3111 | 11558 | 1.92 | 1.80 | 9383 | 37459 | 100 |
|  | 100 | 2818 | 11741 | 1.82 | 1.86 | 9289 | 37510 | 100 |
|  | 100 | 2899 | 12129 | 1.82 | 1.90 | 9450 | 37060 | 100 |
|  | 100 | 2885 | 11673 | 1.84 | 1.82 | 9389 | 37178 | 100 |
|  | 100 | 2898 | 11909 | 1.79 | 1.84 | 9505 | 37277 | 100 |
|  | 98  | 3045 | 11485 | 1.89 | 1.75 | 9456 | 38167 | 100 |
|  | 100 | 2965 | 11425 | 1.87 | 1.78 | 9447 | 37469 | 100 |
|  | 100 | 2873 | 12568 | 1.80 | 1.90 | 9464 | 38061 | 100 |
|  | 97  | 2911 | 11304 | 1.80 | 1.79 | 9616 | 36825 | 100 |
|  | 100 | 3107 | 11880 | 1.91 | 1.84 | 9521 | 37291 | 100 |
|  | 99  | 3095 | 12076 | 1.91 | 1.86 | 9668 | 37255 | 100 |
|  | 100 | 2758 | 11054 | 1.80 | 1.77 | 9024 | 36828 | 100 |
|  | 99  | 2899 | 11556 | 1.82 | 1.79 | 9367 | 38111 | 100 |
|  | 100 | 2899 | 12149 | 1.84 | 1.87 | 9273 | 37584 | 100 |
|  | 99  | 2948 | 11611 | 1.80 | 1.82 | 9669 | 37526 | 100 |
|  | 99  | 2957 | 12062 | 1.82 | 1.93 | 9598 | 36926 | 100 |
|  | 100 | 2915 | 11789 | 1.83 | 1.82 | 9327 | 37665 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2834 | 11449 | 1.83 | 1.77 | 9394 | 37826 | 100 |
|  | 100 | 2941 | 12240 | 1.83 | 1.87 | 9452 | 38029 | 100 |
|  | 99  | 2732 | 11345 | 1.77 | 1.83 | 9147 | 36307 | 100 |
|  | 100 | 2783 | 12265 | 1.76 | 1.90 | 9381 | 37274 | 100 |
|  | 99  | 2988 | 11570 | 1.80 | 1.78 | 9680 | 37601 | 100 |
|  | 100 | 3083 | 11279 | 1.88 | 1.79 | 9549 | 36580 | 100 |
|  | 99  | 2894 | 11891 | 1.82 | 1.85 | 9470 | 37590 | 100 |
|  | 98  | 2862 | 11870 | 1.78 | 1.88 | 9508 | 36547 | 100 |
|  | 100 | 2891 | 11651 | 1.83 | 1.86 | 9417 | 36345 | 100 |
|  | 99  | 2874 | 11515 | 1.79 | 1.78 | 9540 | 38256 | 100 |
|  | 100 | 2491 | 12411 | 1.68 | 1.85 | 9160 | 38691 | 100 |
|  | 99  | 2935 | 11910 | 1.83 | 1.85 | 9563 | 37608 | 100 |
|  | 99  | 3024 | 11171 | 1.86 | 1.77 | 9521 | 37107 | 100 |
|  | 100 | 3028 | 11703 | 1.88 | 1.82 | 9405 | 37233 | 100 |
|  | 100 | 2737 | 11733 | 1.74 | 1.87 | 9568 | 36508 | 100 |
|  | 100 | 2846 | 11545 | 1.78 | 1.80 | 9592 | 37574 | 100 |
|  | 99  | 2964 | 11932 | 1.80 | 1.83 | 9589 | 37765 | 100 |
|  | 99  | 2960 | 12011 | 1.85 | 1.87 | 9458 | 37010 | 100 |
|  | 99  | 3081 | 11249 | 1.85 | 1.78 | 9858 | 36804 | 100 |
|  | 100 | 3001 | 11606 | 1.92 | 1.81 | 9263 | 37460 | 100 |
|  | 99  | 3063 | 11738 | 1.91 | 1.80 | 9317 | 37913 | 100 |
|  | 99  | 2702 | 11888 | 1.76 | 1.85 | 9196 | 37159 | 100 |
|  | 99  | 2904 | 11190 | 1.78 | 1.78 | 9694 | 36914 | 100 |
|  | 99  | 2966 | 11164 | 1.80 | 1.75 | 9621 | 37440 | 100 |
|  | 100 | 2775 | 11254 | 1.77 | 1.82 | 9295 | 36446 | 100 |
|  | 99  | 2888 | 12381 | 1.75 | 1.86 | 9891 | 38368 | 100 |
|  | 100 | 2738 | 10887 | 1.74 | 1.77 | 9431 | 36436 | 100 |
|  | 100 | 3135 | 11507 | 1.86 | 1.83 | 9867 | 36279 | 100 |
|  | 100 | 2702 | 11527 | 1.71 | 1.81 | 9577 | 37195 | 100 |
|  | 100 | 3002 | 12093 | 1.88 | 1.83 | 9450 | 37913 | 100 |
|  | 97  | 3046 | 11286 | 1.86 | 1.79 | 9515 | 36700 | 100 |
|  | 99  | 3065 | 11600 | 1.87 | 1.82 | 9623 | 37796 | 100 |
|  | 97  | 2936 | 11598 | 1.85 | 1.77 | 9312 | 38150 | 100 |
|  | 98  | 3058 | 11322 | 1.91 | 1.78 | 9406 | 37255 | 100 |
|  | 99  | 2928 | 12122 | 1.87 | 1.84 | 9158 | 38265 | 100 |
|  | 100 | 2706 | 11919 | 1.78 | 1.85 | 9131 | 37892 | 100 |
|  | 99  | 2858 | 11515 | 1.84 | 1.78 | 9204 | 38045 | 100 |
|  | 98  | 2759 | 12484 | 1.76 | 1.92 | 9451 | 37456 | 100 |
|  | 99  | 2824 | 11600 | 1.78 | 1.76 | 9535 | 38594 | 100 |
|  | 98  | 2994 | 12052 | 1.89 | 1.82 | 9260 | 38432 | 100 |
|  | 99  | 2916 | 11989 | 1.80 | 1.86 | 9569 | 37541 | 100 |
|  | 100 | 3091 | 11808 | 1.85 | 1.87 | 9770 | 36693 | 100 |
|  | 100 | 2698 | 11553 | 1.77 | 1.81 | 9220 | 37352 | 100 |
|  | 98  | 2930 | 11566 | 1.84 | 1.79 | 9369 | 37374 | 100 |
|  | 98  | 2995 | 12106 | 1.83 | 1.85 | 9541 | 37393 | 100 |
|  | 99  | 2798 | 11909 | 1.74 | 1.85 | 9532 | 37822 | 100 |
|  | 100 | 2831 | 12261 | 1.78 | 1.90 | 9342 | 37249 | 100 |
|  | 98  | 2769 | 11414 | 1.82 | 1.78 | 9284 | 37566 | 100 |
|  | 98  | 2985 | 11206 | 1.86 | 1.73 | 9554 | 38273 | 100 |
|  | 98  | 2862 | 12561 | 1.81 | 1.91 | 9326 | 38356 | 100 |
|  | 100 | 2817 | 11973 | 1.78 | 1.88 | 9531 | 37487 | 100 |
|  | 100 | 2966 | 11990 | 1.84 | 1.88 | 9506 | 36645 | 100 |
|  | 99  | 3059 | 11770 | 1.83 | 1.86 | 9837 | 36413 | 100 |
|  | 98  | 2774 | 11828 | 1.80 | 1.80 | 9309 | 38167 | 100 |
|  | 100 | 3060 | 12028 | 1.92 | 1.84 | 9329 | 38000 | 100 |
|  | 98  | 2887 | 12038 | 1.81 | 1.86 | 9438 | 37763 | 100 |
|  | 99  | 2823 | 12002 | 1.75 | 1.88 | 9693 | 37198 | 100 |
|  | 100 | 2860 | 11694 | 1.81 | 1.82 | 9534 | 37117 | 100 |
|  | 100 | 2991 | 12156 | 1.86 | 1.88 | 9602 | 37123 | 100 |
|  | 99  | 2904 | 11869 | 1.86 | 1.82 | 9164 | 38013 | 100 |
|  | 98  | 2955 | 11633 | 1.82 | 1.85 | 9409 | 37287 | 100 |
|  | 98  | 2996 | 12069 | 1.87 | 1.86 | 9455 | 38056 | 100 |
|  | 97  | 2974 | 13014 | 1.80 | 1.98 | 9698 | 37633 | 100 |
|  | 99  | 2889 | 11581 | 1.80 | 1.81 | 9453 | 37505 | 100 |
|  | 98  | 2996 | 11999 | 1.89 | 1.82 | 9416 | 38196 | 100 |
|  | 99  | 3024 | 12090 | 1.90 | 1.86 | 9369 | 37667 | 100 |
|  | 100 | 2942 | 12871 | 1.85 | 1.96 | 9260 | 37694 | 100 |
|  | 100 | 2702 | 11418 | 1.75 | 1.85 | 9384 | 35648 | 100 |
|  | 99  | 3066 | 11656 | 1.86 | 1.85 | 9611 | 37043 | 100 |
|  | 100 | 2888 | 11725 | 1.81 | 1.81 | 9319 | 37053 | 100 |
|  | 99  | 2864 | 12623 | 1.81 | 1.94 | 9468 | 37546 | 100 |
|  | 99  | 2889 | 11951 | 1.82 | 1.85 | 9482 | 37179 | 100 |
|  | 99  | 2821 | 11960 | 1.80 | 1.84 | 9424 | 37664 | 100 |
|  | 100 | 2820 | 11590 | 1.78 | 1.82 | 9550 | 37071 | 100 |
|  | 99  | 2920 | 11719 | 1.83 | 1.81 | 9274 | 38137 | 100 |
|  | 98  | 3179 | 11247 | 1.95 | 1.75 | 9563 | 37629 | 100 |
|  | 100 | 2707 | 11484 | 1.73 | 1.78 | 9377 | 38321 | 100 |
|  | 99  | 2761 | 11560 | 1.74 | 1.83 | 9460 | 36977 | 100 |
|  | 100 | 2782 | 12211 | 1.77 | 1.85 | 9362 | 38384 | 100 |
|  | 100 | 2989 | 11989 | 1.81 | 1.87 | 9657 | 37135 | 100 |
|  | 98  | 3002 | 12580 | 1.83 | 1.91 | 9593 | 37722 | 100 |
|  | 99  | 2812 | 12437 | 1.80 | 1.86 | 9382 | 38226 | 100 |
|  | 99  | 2928 | 11905 | 1.86 | 1.84 | 9297 | 37317 | 100 |
|  | 100 | 2698 | 11178 | 1.79 | 1.76 | 9029 | 36988 | 100 |
|  | 100 | 3017 | 11882 | 1.89 | 1.80 | 9387 | 38511 | 100 |
|  | 100 | 2781 | 11507 | 1.79 | 1.80 | 9315 | 37456 | 100 |
|  | 98  | 2888 | 11555 | 1.79 | 1.78 | 9548 | 37649 | 100 |
|  | 99  | 2975 | 11762 | 1.87 | 1.79 | 9403 | 38030 | 100 |
|  | 100 | 2969 | 11392 | 1.82 | 1.81 | 9445 | 36552 | 100 |
|  | 99  | 2873 | 11758 | 1.75 | 1.85 | 9711 | 36675 | 100 |
|  | 100 | 2837 | 12143 | 1.83 | 1.83 | 9308 | 38325 | 100 |
|  | 97  | 3137 | 11300 | 1.92 | 1.74 | 9512 | 38269 | 100 |
|  | 99  | 2966 | 11581 | 1.88 | 1.78 | 9325 | 37995 | 100 |
|  | 98  | 2810 | 12236 | 1.79 | 1.89 | 9297 | 37231 | 100 |
|  | 97  | 2888 | 11921 | 1.74 | 1.86 | 9708 | 37268 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2982 | 11868 | 1.86 | 1.88 | 9435 | 36615 | 100 |
|  | 99  | 3162 | 11445 | 1.88 | 1.81 | 9900 | 36934 | 100 |
|  | 98  | 2915 | 11335 | 1.82 | 1.75 | 9437 | 37756 | 100 |
|  | 100 | 2984 | 12647 | 1.86 | 1.91 | 9580 | 38210 | 100 |
|  | 100 | 2825 | 11179 | 1.77 | 1.73 | 9404 | 37994 | 100 |
|  | 99  | 2861 | 12346 | 1.76 | 1.90 | 9514 | 36928 | 100 |
|  | 100 | 2809 | 12032 | 1.78 | 1.85 | 9535 | 37604 | 100 |
|  | 99  | 2983 | 11888 | 1.84 | 1.85 | 9487 | 37534 | 100 |
|  | 100 | 2789 | 11143 | 1.79 | 1.79 | 9371 | 36108 | 100 |
|  | 98  | 2941 | 11839 | 1.80 | 1.85 | 9600 | 37067 | 100 |
|  | 100 | 2786 | 11957 | 1.76 | 1.88 | 9592 | 37406 | 100 |
|  | 99  | 2846 | 11587 | 1.78 | 1.80 | 9539 | 37090 | 100 |
|  | 100 | 2910 | 11638 | 1.79 | 1.84 | 9797 | 36675 | 100 |
|  | 99  | 2741 | 11493 | 1.70 | 1.82 | 9612 | 37224 | 100 |
|  | 98  | 2849 | 11503 | 1.79 | 1.81 | 9415 | 36912 | 100 |
|  | 99  | 3062 | 11394 | 1.88 | 1.76 | 9612 | 38455 | 100 |
|  | 98  | 3023 | 11622 | 1.82 | 1.80 | 9644 | 37944 | 100 |
|  | 99  | 2851 | 12319 | 1.81 | 1.89 | 9504 | 37458 | 100 |
|  | 100 | 2894 | 12247 | 1.83 | 1.91 | 9412 | 37153 | 100 |
|  | 99  | 2865 | 11614 | 1.79 | 1.82 | 9384 | 36949 | 100 |
|  | 100 | 3028 | 11733 | 1.85 | 1.82 | 9566 | 37389 | 100 |
|  | 98  | 2950 | 11505 | 1.82 | 1.82 | 9565 | 36691 | 100 |
|  | 99  | 2816 | 11518 | 1.81 | 1.77 | 9221 | 37591 | 100 |
|  | 100 | 2841 | 12431 | 1.82 | 1.91 | 9370 | 37436 | 100 |
|  | 100 | 2807 | 12028 | 1.73 | 1.86 | 9683 | 37419 | 100 |
|  | 99  | 2914 | 11315 | 1.77 | 1.80 | 9782 | 37104 | 100 |
|  | 98  | 2980 | 11541 | 1.80 | 1.82 | 9678 | 36509 | 100 |
|  | 99  | 2959 | 11803 | 1.80 | 1.84 | 9737 | 37364 | 100 |
|  | 100 | 2869 | 12102 | 1.78 | 1.85 | 9634 | 38065 | 100 |
|  | 99  | 2800 | 11105 | 1.82 | 1.74 | 9132 | 37558 | 100 |
|  | 98  | 2806 | 12337 | 1.74 | 1.89 | 9691 | 38005 | 100 |
|  | 100 | 2823 | 11584 | 1.76 | 1.79 | 9507 | 37365 | 100 |
|  | 100 | 2943 | 12173 | 1.85 | 1.84 | 9341 | 38436 | 100 |
|  | 98  | 2781 | 11851 | 1.83 | 1.87 | 9130 | 38040 | 100 |
|  | 100 | 2916 | 12083 | 1.78 | 1.87 | 9622 | 37258 | 100 |
|  | 99  | 2892 | 11674 | 1.84 | 1.82 | 9396 | 37249 | 100 |
|  | 99  | 2920 | 12009 | 1.84 | 1.87 | 9402 | 37215 | 100 |
|  | 100 | 2886 | 12061 | 1.82 | 1.85 | 9588 | 38602 | 100 |
|  | 100 | 2941 | 12990 | 1.87 | 1.96 | 9260 | 37741 | 100 |
|  | 99  | 2790 | 11805 | 1.78 | 1.78 | 9478 | 38967 | 100 |
|  | 100 | 2915 | 12135 | 1.84 | 1.90 | 9425 | 36716 | 100 |
|  | 99  | 2767 | 12436 | 1.71 | 1.90 | 9633 | 37520 | 100 |
|  | 98  | 2839 | 11395 | 1.74 | 1.82 | 9665 | 36654 | 100 |
|  | 99  | 2851 | 11801 | 1.79 | 1.87 | 9647 | 36681 | 100 |
|  | 100 | 2943 | 11828 | 1.85 | 1.80 | 9357 | 37835 | 100 |
|  | 100 | 2854 | 11712 | 1.80 | 1.82 | 9330 | 37805 | 100 |
|  | 99  | 2811 | 11616 | 1.81 | 1.79 | 9124 | 37627 | 100 |
|  | 100 | 2743 | 11807 | 1.73 | 1.85 | 9433 | 36964 | 100 |
|  | 99  | 2888 | 12754 | 1.84 | 1.95 | 9425 | 37366 | 100 |
|  | 100 | 2900 | 11733 | 1.78 | 1.87 | 9741 | 36494 | 100 |
|  | 99  | 3052 | 11880 | 1.92 | 1.81 | 9365 | 38281 | 100 |
|  | 98  | 2815 | 11457 | 1.76 | 1.78 | 9490 | 37509 | 100 |
|  | 100 | 2789 | 12619 | 1.74 | 1.97 | 9502 | 36963 | 100 |
|  | 98  | 3077 | 11411 | 1.85 | 1.81 | 9702 | 36872 | 100 |
|  | 99  | 2872 | 11324 | 1.76 | 1.77 | 9725 | 37038 | 100 |
|  | 98  | 2974 | 11416 | 1.88 | 1.78 | 9422 | 37779 | 100 |
|  | 99  | 2756 | 11648 | 1.71 | 1.81 | 9510 | 37497 | 100 |
|  | 99  | 2847 | 11863 | 1.78 | 1.84 | 9579 | 36996 | 100 |
|  | 98  | 2822 | 12593 | 1.80 | 1.88 | 9304 | 38201 | 100 |
|  | 100 | 2854 | 11850 | 1.81 | 1.85 | 9484 | 37046 | 100 |
|  | 100 | 2688 | 12044 | 1.74 | 1.89 | 9294 | 37338 | 100 |
|  | 98  | 2819 | 11343 | 1.75 | 1.78 | 9606 | 37033 | 100 |
|  | 99  | 2897 | 11364 | 1.79 | 1.78 | 9667 | 37316 | 100 |
|  | 99  | 2782 | 11648 | 1.77 | 1.82 | 9513 | 37134 | 100 |
|  | 98  | 2833 | 12073 | 1.81 | 1.84 | 9150 | 38472 | 100 |
|  | 100 | 3004 | 11927 | 1.87 | 1.83 | 9374 | 37939 | 100 |
|  | 100 | 2778 | 12584 | 1.79 | 1.89 | 9286 | 38512 | 100 |
|  | 99  | 2850 | 12105 | 1.77 | 1.87 | 9387 | 37387 | 100 |
|  | 100 | 2913 | 11473 | 1.76 | 1.78 | 9890 | 38092 | 100 |
|  | 100 | 2816 | 12366 | 1.80 | 1.87 | 9263 | 38334 | 100 |
|  | 99  | 2891 | 11352 | 1.79 | 1.80 | 9477 | 36999 | 100 |
|  | 99  | 3005 | 11629 | 1.85 | 1.82 | 9576 | 37198 | 100 |
|  | 99  | 2910 | 11640 | 1.85 | 1.77 | 9295 | 38564 | 100 |
|  | 100 | 2786 | 11897 | 1.78 | 1.85 | 9266 | 37374 | 100 |
|  | 100 | 3140 | 11294 | 1.94 | 1.78 | 9429 | 37586 | 100 |
|  | 98  | 2965 | 11736 | 1.87 | 1.84 | 9378 | 36830 | 100 |
|  | 99  | 3021 | 11271 | 1.86 | 1.79 | 9565 | 36940 | 100 |
|  | 100 | 2808 | 11307 | 1.79 | 1.79 | 9296 | 36798 | 100 |
|  | 100 | 3121 | 11422 | 1.91 | 1.76 | 9384 | 37995 | 100 |
|  | 100 | 2788 | 12100 | 1.80 | 1.84 | 9169 | 37799 | 100 |
|  | 98  | 2872 | 11707 | 1.77 | 1.82 | 9689 | 37252 | 100 |
|  | 99  | 2948 | 12173 | 1.85 | 1.87 | 9232 | 37096 | 100 |
|  | 99  | 2867 | 11865 | 1.77 | 1.84 | 9577 | 37324 | 100 |
|  | 99  | 2964 | 11642 | 1.83 | 1.83 | 9635 | 37091 | 100 |
|  | 100 | 2812 | 11537 | 1.81 | 1.80 | 9445 | 37590 | 100 |
|  | 98  | 2939 | 12408 | 1.85 | 1.88 | 9543 | 38892 | 100 |
|  | 97  | 2909 | 11357 | 1.82 | 1.81 | 9470 | 36758 | 100 |
|  | 97  | 3052 | 11925 | 1.92 | 1.81 | 9263 | 38407 | 100 |
|  | 100 | 2803 | 12606 | 1.76 | 1.96 | 9433 | 37225 | 100 |
|  | 99  | 2953 | 11796 | 1.87 | 1.84 | 9344 | 36948 | 100 |
|  | 100 | 2981 | 12351 | 1.86 | 1.87 | 9434 | 38265 | 100 |
|  | 98  | 2862 | 11388 | 1.77 | 1.82 | 9598 | 36438 | 100 |
|  | 98  | 2836 | 11933 | 1.83 | 1.86 | 9375 | 36736 | 100 |
|  | 100 | 2761 | 11626 | 1.71 | 1.83 | 9815 | 36553 | 100 |
|  | 98  | 3019 | 12134 | 1.85 | 1.86 | 9523 | 37789 | 100 |



|  |     |      |       |      |      |       |       |  |     |
|--|-----|------|-------|------|------|-------|-------|--|-----|
|  | 100 | 2896 | 11368 | 1.78 | 1.76 | 9624  | 37858 |  | 100 |
|  | 100 | 2888 | 11753 | 1.83 | 1.84 | 9343  | 37115 |  | 100 |
|  | 98  | 2862 | 12388 | 1.74 | 1.90 | 9936  | 37236 |  | 100 |
|  | 98  | 2947 | 11945 | 1.88 | 1.85 | 9122  | 37731 |  | 100 |
|  | 99  | 2731 | 11594 | 1.75 | 1.78 | 9414  | 37591 |  | 100 |
|  | 100 | 3056 | 12079 | 1.88 | 1.88 | 9601  | 37019 |  | 100 |
|  | 100 | 2759 | 12132 | 1.79 | 1.89 | 9352  | 37163 |  | 100 |
|  | 98  | 2801 | 11870 | 1.81 | 1.82 | 9154  | 38256 |  | 100 |
|  | 99  | 2768 | 11998 | 1.77 | 1.87 | 9383  | 37259 |  | 100 |
|  | 98  | 3042 | 11389 | 1.84 | 1.78 | 9752  | 37182 |  | 100 |
|  | 99  | 3008 | 11321 | 1.90 | 1.82 | 9470  | 36045 |  | 100 |
|  | 98  | 3019 | 12133 | 1.81 | 1.91 | 9903  | 36826 |  | 100 |
|  | 99  | 2852 | 11690 | 1.79 | 1.81 | 9451  | 37151 |  | 100 |
|  | 99  | 2986 | 11490 | 1.85 | 1.80 | 9549  | 37290 |  | 100 |
|  | 100 | 2792 | 12532 | 1.81 | 1.90 | 9169  | 37879 |  | 100 |
|  | 99  | 2939 | 11014 | 1.84 | 1.71 | 9574  | 38052 |  | 100 |
|  | 100 | 3016 | 12725 | 1.89 | 1.90 | 9216  | 38244 |  | 100 |
|  | 99  | 2691 | 12523 | 1.73 | 1.92 | 9305  | 38116 |  | 100 |
|  | 99  | 2891 | 12083 | 1.83 | 1.85 | 9301  | 38290 |  | 100 |
|  | 100 | 2649 | 11818 | 1.73 | 1.84 | 9237  | 37044 |  | 100 |
|  | 100 | 2788 | 11833 | 1.77 | 1.81 | 9477  | 37872 |  | 100 |
|  | 100 | 2900 | 12366 | 1.82 | 1.91 | 9312  | 37875 |  | 100 |
|  | 99  | 2813 | 11495 | 1.78 | 1.79 | 9469  | 37462 |  | 100 |
|  | 99  | 2917 | 11725 | 1.87 | 1.80 | 9356  | 37546 |  | 100 |
|  | 100 | 3000 | 11760 | 1.83 | 1.86 | 9732  | 36609 |  | 100 |
|  | 99  | 2846 | 11252 | 1.77 | 1.77 | 9439  | 37526 |  | 100 |
|  | 100 | 2846 | 11991 | 1.83 | 1.83 | 9258  | 37958 |  | 100 |
|  | 99  | 2998 | 11614 | 1.88 | 1.78 | 9543  | 38099 |  | 100 |
|  | 100 | 2947 | 11904 | 1.91 | 1.82 | 9274  | 37816 |  | 100 |
|  | 100 | 2771 | 12164 | 1.80 | 1.87 | 9317  | 37388 |  | 100 |
|  | 100 | 3068 | 12021 | 1.89 | 1.82 | 9365  | 38687 |  | 100 |
|  | 100 | 2660 | 12585 | 1.77 | 1.91 | 9209  | 37876 |  | 100 |
|  | 99  | 2788 | 11258 | 1.72 | 1.80 | 9696  | 36542 |  | 100 |
|  | 99  | 2819 | 12554 | 1.77 | 1.91 | 9408  | 37713 |  | 100 |
|  | 98  | 3067 | 10896 | 1.86 | 1.71 | 9920  | 37139 |  | 100 |
|  | 100 | 3072 | 11840 | 1.90 | 1.81 | 9608  | 38526 |  | 100 |
|  | 100 | 2893 | 12061 | 1.87 | 1.86 | 9127  | 37702 |  | 100 |
|  | 100 | 2895 | 11654 | 1.86 | 1.78 | 9216  | 38718 |  | 100 |
|  | 99  | 2772 | 12498 | 1.79 | 1.88 | 9022  | 38400 |  | 100 |
|  | 99  | 2957 | 11958 | 1.83 | 1.85 | 9512  | 38021 |  | 100 |
|  | 100 | 2704 | 11357 | 1.70 | 1.79 | 9534  | 36885 |  | 100 |
|  | 99  | 2956 | 11446 | 1.88 | 1.81 | 9209  | 37230 |  | 100 |
|  | 99  | 3103 | 11678 | 1.91 | 1.84 | 9592  | 37089 |  | 100 |
|  | 99  | 2869 | 11890 | 1.82 | 1.80 | 9308  | 38505 |  | 100 |
|  | 98  | 3005 | 12430 | 1.91 | 1.87 | 9199  | 38351 |  | 100 |
|  | 99  | 2730 | 12046 | 1.74 | 1.84 | 9372  | 37807 |  | 100 |
|  | 100 | 3095 | 12296 | 1.89 | 1.93 | 9595  | 36618 |  | 100 |
|  | 97  | 3054 | 11084 | 1.88 | 1.78 | 9561  | 36611 |  | 100 |
|  | 100 | 2868 | 11807 | 1.82 | 1.84 | 9336  | 37132 |  | 100 |
|  | 98  | 2902 | 11653 | 1.81 | 1.81 | 9389  | 37609 |  | 100 |
|  | 99  | 2906 | 12176 | 1.82 | 1.88 | 9617  | 37551 |  | 100 |
|  | 99  | 2918 | 11289 | 1.78 | 1.77 | 9651  | 37562 |  | 100 |
|  | 100 | 2953 | 12385 | 1.85 | 1.88 | 9377  | 37992 |  | 100 |
|  | 99  | 2863 | 12161 | 1.79 | 1.85 | 9498  | 38274 |  | 100 |
|  | 100 | 3059 | 11725 | 1.89 | 1.80 | 9508  | 37976 |  | 100 |
|  | 99  | 3056 | 11453 | 1.89 | 1.79 | 9373  | 37417 |  | 100 |
|  | 99  | 2962 | 11827 | 1.81 | 1.85 | 9742  | 36985 |  | 100 |
|  | 99  | 2884 | 12134 | 1.84 | 1.83 | 9270  | 38207 |  | 100 |
|  | 100 | 2993 | 11544 | 1.89 | 1.79 | 9212  | 37694 |  | 100 |
|  | 97  | 2908 | 12318 | 1.86 | 1.86 | 9306  | 38540 |  | 100 |
|  | 99  | 2942 | 11187 | 1.85 | 1.76 | 9351  | 37707 |  | 100 |
|  | 99  | 2777 | 12238 | 1.80 | 1.90 | 9172  | 37320 |  | 100 |
|  | 98  | 2865 | 11505 | 1.84 | 1.83 | 9030  | 36381 |  | 100 |
|  | 100 | 2765 | 12495 | 1.73 | 1.87 | 9547  | 38456 |  | 100 |
|  | 99  | 2897 | 12134 | 1.82 | 1.89 | 9291  | 36972 |  | 100 |
|  | 99  | 3030 | 11510 | 1.85 | 1.77 | 9611  | 38412 |  | 100 |
|  | 100 | 3053 | 12261 | 1.89 | 1.85 | 9541  | 38037 |  | 100 |
|  | 99  | 2840 | 12062 | 1.82 | 1.93 | 9239  | 36400 |  | 100 |
|  | 99  | 2931 | 11486 | 1.78 | 1.83 | 9666  | 36905 |  | 100 |
|  | 100 | 3129 | 12524 | 1.93 | 1.89 | 9335  | 38132 |  | 100 |
|  | 100 | 2622 | 11519 | 1.76 | 1.79 | 9074  | 37074 |  | 100 |
|  | 99  | 2823 | 11421 | 1.76 | 1.77 | 9559  | 37601 |  | 100 |
|  | 99  | 3065 | 11850 | 1.89 | 1.79 | 9527  | 38931 |  | 100 |
|  | 99  | 2828 | 11774 | 1.86 | 1.85 | 9035  | 36922 |  | 100 |
|  | 100 | 2673 | 10964 | 1.75 | 1.80 | 9238  | 35462 |  | 100 |
|  | 99  | 2773 | 11132 | 1.70 | 1.75 | 9813  | 37215 |  | 100 |
|  | 100 | 2743 | 11837 | 1.75 | 1.88 | 9323  | 36710 |  | 100 |
|  | 98  | 2859 | 10939 | 1.81 | 1.76 | 9243  | 36547 |  | 100 |
|  | 99  | 3083 | 12036 | 1.83 | 1.82 | 9853  | 38184 |  | 100 |
|  | 100 | 2848 | 11970 | 1.77 | 1.84 | 9625  | 37606 |  | 100 |
|  | 100 | 2946 | 11425 | 1.86 | 1.84 | 9334  | 35936 |  | 100 |
|  | 100 | 2756 | 11649 | 1.78 | 1.79 | 9234  | 38332 |  | 100 |
|  | 99  | 2921 | 11759 | 1.81 | 1.77 | 9507  | 38826 |  | 100 |
|  | 100 | 2714 | 11929 | 1.77 | 1.90 | 9115  | 36964 |  | 100 |
|  | 100 | 3034 | 11609 | 1.80 | 1.78 | 10029 | 37820 |  | 100 |
|  | 100 | 2995 | 11716 | 1.85 | 1.83 | 9408  | 37627 |  | 100 |
|  | 100 | 2851 | 11235 | 1.82 | 1.78 | 9364  | 37313 |  | 100 |
|  | 98  | 2901 | 10974 | 1.79 | 1.75 | 9660  | 37296 |  | 100 |
|  | 100 | 2906 | 12451 | 1.77 | 1.89 | 9775  | 38163 |  | 100 |
|  | 100 | 3003 | 12194 | 1.86 | 1.83 | 9370  | 38688 |  | 100 |
|  | 100 | 2770 | 12006 | 1.76 | 1.84 | 9313  | 37568 |  | 100 |
|  | 99  | 2959 | 11713 | 1.81 | 1.81 | 9683  | 37862 |  | 100 |
|  | 100 | 3094 | 11763 | 1.89 | 1.81 | 9415  | 37930 |  | 100 |
|  | 100 | 2933 | 12349 | 1.91 | 1.92 | 9130  | 37050 |  | 100 |
|  | 100 | 2993 | 12006 | 1.84 | 1.81 | 9556  | 38444 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2978 | 12379 | 1.83 | 1.85 | 9676 | 38585 | 100 |
| 99  | 2794 | 11131 | 1.78 | 1.82 | 9225 | 36057 | 100 |
| 100 | 2766 | 11264 | 1.79 | 1.78 | 9197 | 37620 | 100 |
| 100 | 2665 | 12515 | 1.75 | 1.93 | 9199 | 37458 | 100 |
| 100 | 2577 | 11791 | 1.66 | 1.83 | 9544 | 37258 | 100 |
| 98  | 2998 | 12405 | 1.88 | 1.89 | 9387 | 38076 | 100 |
| 100 | 2842 | 11048 | 1.82 | 1.80 | 9311 | 35981 | 100 |
| 100 | 2994 | 11923 | 1.85 | 1.88 | 9468 | 36633 | 100 |
| 99  | 2862 | 11562 | 1.80 | 1.85 | 9401 | 36510 | 100 |
| 100 | 3080 | 12361 | 1.87 | 1.88 | 9597 | 37855 | 100 |
| 99  | 2867 | 11485 | 1.78 | 1.82 | 9472 | 36867 | 100 |
| 100 | 2970 | 11832 | 1.91 | 1.86 | 9185 | 36694 | 100 |
| 100 | 2782 | 11080 | 1.79 | 1.81 | 9282 | 35653 | 100 |
| 100 | 2716 | 10949 | 1.73 | 1.77 | 9472 | 36259 | 100 |
| 99  | 3037 | 11356 | 1.89 | 1.77 | 9455 | 37632 | 100 |
| 99  | 2692 | 10895 | 1.75 | 1.75 | 9083 | 36588 | 100 |
| 100 | 2986 | 11551 | 1.83 | 1.81 | 9663 | 37285 | 100 |
| 100 | 2796 | 11883 | 1.80 | 1.85 | 9268 | 37188 | 100 |
| 99  | 2909 | 12345 | 1.80 | 1.89 | 9610 | 38297 | 100 |
| 99  | 2720 | 11587 | 1.76 | 1.81 | 9336 | 37402 | 100 |
| 99  | 2883 | 11247 | 1.83 | 1.76 | 9329 | 37585 | 100 |
| 99  | 2956 | 11707 | 1.80 | 1.77 | 9661 | 39074 | 100 |
| 99  | 3055 | 12582 | 1.84 | 1.90 | 9725 | 37984 | 100 |
| 99  | 2947 | 11357 | 1.85 | 1.79 | 9295 | 37221 | 100 |
| 98  | 2792 | 11559 | 1.80 | 1.79 | 9218 | 37577 | 100 |
| 99  | 2942 | 11539 | 1.82 | 1.78 | 9582 | 38077 | 100 |
| 100 | 3114 | 11608 | 1.95 | 1.80 | 9432 | 37665 | 100 |
| 100 | 2769 | 11549 | 1.75 | 1.82 | 9351 | 36567 | 100 |
| 97  | 2841 | 11400 | 1.81 | 1.78 | 9445 | 37295 | 100 |
| 97  | 3102 | 11573 | 1.89 | 1.79 | 9685 | 38231 | 100 |
| 98  | 2901 | 11695 | 1.88 | 1.84 | 9127 | 36799 | 100 |
| 100 | 2715 | 10774 | 1.76 | 1.74 | 9393 | 36311 | 100 |
| 100 | 2726 | 11759 | 1.75 | 1.80 | 9279 | 37961 | 100 |
| 99  | 2764 | 11424 | 1.77 | 1.80 | 9369 | 37019 | 100 |
| 99  | 2836 | 12108 | 1.74 | 1.84 | 9805 | 38567 | 100 |
| 98  | 2902 | 11355 | 1.83 | 1.82 | 9375 | 36586 | 100 |
| 98  | 2902 | 11643 | 1.82 | 1.81 | 9436 | 37448 | 100 |
| 100 | 2948 | 11737 | 1.87 | 1.86 | 9336 | 36679 | 100 |
| 99  | 3064 | 11140 | 1.86 | 1.77 | 9650 | 37259 | 100 |
| 100 | 2891 | 11844 | 1.81 | 1.90 | 9438 | 36659 | 100 |
| 99  | 2748 | 11508 | 1.75 | 1.79 | 9409 | 36928 | 100 |
| 100 | 2893 | 11806 | 1.77 | 1.81 | 9795 | 38101 | 100 |
| 99  | 3025 | 11755 | 1.83 | 1.78 | 9819 | 38253 | 100 |
| 99  | 3016 | 11513 | 1.89 | 1.87 | 9316 | 36077 | 100 |
| 98  | 2922 | 11270 | 1.84 | 1.76 | 9366 | 37530 | 100 |
| 99  | 2850 | 11097 | 1.77 | 1.77 | 9600 | 37051 | 100 |
| 99  | 2785 | 12168 | 1.75 | 1.83 | 9743 | 38601 | 100 |
| 100 | 2761 | 11864 | 1.76 | 1.85 | 9249 | 36849 | 100 |
| 100 | 2914 | 11107 | 1.76 | 1.75 | 9800 | 37626 | 100 |
| 97  | 3153 | 12363 | 1.91 | 1.87 | 9460 | 38364 | 100 |
| 99  | 2682 | 11676 | 1.73 | 1.84 | 9326 | 36728 | 100 |
| 99  | 2765 | 12265 | 1.71 | 1.89 | 9776 | 38054 | 100 |
| 99  | 3047 | 11566 | 1.94 | 1.83 | 9232 | 36891 | 100 |
| 100 | 2768 | 10785 | 1.78 | 1.77 | 9305 | 36161 | 100 |
| 100 | 2914 | 12075 | 1.85 | 1.88 | 9387 | 37134 | 100 |
| 100 | 2985 | 11657 | 1.83 | 1.82 | 9606 | 37520 | 100 |
| 99  | 2656 | 11264 | 1.73 | 1.79 | 9226 | 36887 | 100 |
| 99  | 2756 | 11621 | 1.74 | 1.79 | 9394 | 38098 | 100 |
| 99  | 2996 | 11560 | 1.83 | 1.75 | 9649 | 39038 | 100 |
| 99  | 3013 | 12615 | 1.81 | 1.88 | 9793 | 39107 | 100 |
| 100 | 3045 | 12381 | 1.91 | 1.95 | 9326 | 36758 | 100 |
| 99  | 2868 | 11604 | 1.85 | 1.83 | 9246 | 37031 | 100 |
| 100 | 2896 | 12762 | 1.80 | 1.93 | 9581 | 37661 | 100 |
| 100 | 2705 | 10999 | 1.81 | 1.77 | 8883 | 36307 | 100 |
| 98  | 2774 | 11396 | 1.76 | 1.75 | 9275 | 37964 | 100 |
| 99  | 3097 | 11313 | 1.92 | 1.74 | 9530 | 37912 | 100 |
| 99  | 3010 | 11975 | 1.84 | 1.90 | 9624 | 36317 | 100 |
| 100 | 2696 | 11675 | 1.75 | 1.85 | 9214 | 36647 | 100 |
| 100 | 2795 | 12184 | 1.75 | 1.81 | 9400 | 38975 | 100 |
| 100 | 3039 | 12849 | 1.85 | 1.94 | 9603 | 37814 | 100 |
| 100 | 2934 | 12200 | 1.81 | 1.85 | 9586 | 37975 | 100 |
| 100 | 3119 | 11958 | 1.92 | 1.82 | 9651 | 38095 | 100 |
| 99  | 2900 | 11646 | 1.83 | 1.83 | 9411 | 36656 | 100 |
| 99  | 2812 | 11891 | 1.75 | 1.82 | 9446 | 38099 | 100 |
| 100 | 3129 | 11759 | 1.90 | 1.82 | 9700 | 37448 | 100 |
| 100 | 2992 | 11989 | 1.91 | 1.88 | 8998 | 36892 | 100 |
| 100 | 3054 | 11516 | 1.86 | 1.79 | 9590 | 37731 | 100 |
| 100 | 2813 | 12134 | 1.85 | 1.95 | 9239 | 36142 | 100 |
| 98  | 2607 | 11218 | 1.68 | 1.78 | 9459 | 37042 | 100 |
| 99  | 3068 | 11921 | 1.88 | 1.84 | 9452 | 37539 | 100 |
| 100 | 3075 | 12973 | 1.92 | 1.97 | 9502 | 38069 | 100 |
| 99  | 3025 | 11250 | 1.88 | 1.82 | 9497 | 36114 | 100 |
| 99  | 2750 | 11458 | 1.73 | 1.80 | 9499 | 37110 | 100 |
| 99  | 3031 | 11847 | 1.79 | 1.84 | 9997 | 37522 | 100 |
| 98  | 2818 | 12431 | 1.76 | 1.88 | 9516 | 38009 | 100 |
| 99  | 2793 | 12139 | 1.81 | 1.89 | 9050 | 37077 | 100 |
| 99  | 2952 | 11178 | 1.79 | 1.78 | 9835 | 37012 | 100 |
| 99  | 2998 | 11887 | 1.82 | 1.80 | 9846 | 37963 | 100 |
| 100 | 2930 | 12016 | 1.89 | 1.87 | 9105 | 36605 | 100 |
| 100 | 2845 | 10729 | 1.84 | 1.77 | 9168 | 36217 | 100 |
| 100 | 2970 | 12547 | 1.86 | 1.88 | 9532 | 38532 | 100 |
| 100 | 2751 | 11670 | 1.74 | 1.85 | 9445 | 36766 | 100 |
| 99  | 2916 | 11691 | 1.85 | 1.82 | 9455 | 37103 | 100 |
| 99  | 3037 | 11236 | 1.82 | 1.79 | 9790 | 37230 | 100 |
| 100 | 2918 | 11936 | 1.83 | 1.84 | 9369 | 37452 | 100 |

|  |     |      |       |      |      |       |       |  |     |
|--|-----|------|-------|------|------|-------|-------|--|-----|
|  | 100 | 2884 | 11278 | 1.84 | 1.81 | 9377  | 35907 |  | 100 |
|  | 100 | 2878 | 11524 | 1.75 | 1.78 | 9756  | 37881 |  | 100 |
|  | 99  | 2822 | 12019 | 1.82 | 1.84 | 9118  | 37667 |  | 100 |
|  | 100 | 2917 | 11910 | 1.83 | 1.82 | 9482  | 38705 |  | 100 |
|  | 99  | 2837 | 12622 | 1.78 | 1.88 | 9496  | 38262 |  | 100 |
|  | 100 | 3014 | 12227 | 1.91 | 1.86 | 9273  | 37632 |  | 100 |
|  | 100 | 2899 | 11344 | 1.82 | 1.79 | 9286  | 36931 |  | 100 |
|  | 100 | 2810 | 12229 | 1.76 | 1.84 | 9544  | 38483 |  | 100 |
|  | 99  | 3059 | 12281 | 1.90 | 1.85 | 9304  | 37943 |  | 100 |
|  | 100 | 2759 | 11471 | 1.76 | 1.83 | 9331  | 36377 |  | 100 |
|  | 99  | 2879 | 11218 | 1.79 | 1.73 | 9517  | 38054 |  | 100 |
|  | 98  | 3174 | 11110 | 1.93 | 1.79 | 9535  | 36649 |  | 100 |
|  | 99  | 2958 | 11579 | 1.85 | 1.81 | 9549  | 37821 |  | 100 |
|  | 99  | 3097 | 11446 | 1.81 | 1.77 | 10067 | 37763 |  | 100 |
|  | 100 | 3027 | 11931 | 1.87 | 1.83 | 9652  | 37619 |  | 100 |
|  | 99  | 2986 | 11633 | 1.89 | 1.86 | 9322  | 36165 |  | 100 |
|  | 100 | 2499 | 11453 | 1.64 | 1.77 | 9418  | 37580 |  | 100 |
|  | 100 | 2810 | 12481 | 1.75 | 1.87 | 9570  | 38119 |  | 100 |
|  | 98  | 2683 | 11603 | 1.77 | 1.81 | 9185  | 37541 |  | 100 |
|  | 100 | 2756 | 11092 | 1.76 | 1.75 | 9282  | 37116 |  | 100 |
|  | 100 | 2848 | 11765 | 1.77 | 1.83 | 9680  | 37752 |  | 100 |
|  | 98  | 2859 | 11498 | 1.81 | 1.87 | 9502  | 35975 |  | 100 |
|  | 99  | 2932 | 12099 | 1.79 | 1.83 | 9637  | 38374 |  | 100 |
|  | 98  | 3061 | 11858 | 1.85 | 1.83 | 9723  | 37814 |  | 100 |
|  | 100 | 2634 | 11474 | 1.74 | 1.84 | 9166  | 36751 |  | 100 |
|  | 100 | 2790 | 11815 | 1.79 | 1.82 | 9350  | 37740 |  | 100 |
|  | 99  | 2859 | 12475 | 1.84 | 1.92 | 9208  | 37296 |  | 100 |
|  | 98  | 2833 | 10515 | 1.81 | 1.74 | 9351  | 35671 |  | 100 |
|  | 100 | 3019 | 11544 | 1.84 | 1.80 | 9449  | 37450 |  | 100 |
|  | 99  | 3032 | 11728 | 1.93 | 1.84 | 9240  | 36943 |  | 100 |
|  | 99  | 3006 | 11664 | 1.83 | 1.79 | 9714  | 38462 |  | 100 |
|  | 100 | 2973 | 11917 | 1.83 | 1.89 | 9441  | 36914 |  | 100 |
|  | 100 | 2613 | 11779 | 1.70 | 1.81 | 9220  | 37909 |  | 100 |
|  | 100 | 2978 | 12078 | 1.82 | 1.83 | 9663  | 38220 |  | 100 |
|  | 100 | 3032 | 11934 | 1.91 | 1.82 | 9376  | 38176 |  | 100 |
|  | 100 | 2824 | 11304 | 1.84 | 1.81 | 9188  | 36575 |  | 100 |
|  | 100 | 2969 | 12480 | 1.83 | 1.90 | 9518  | 38172 |  | 100 |
|  | 99  | 2702 | 12669 | 1.73 | 1.93 | 9437  | 37472 |  | 100 |
|  | 99  | 2832 | 11500 | 1.78 | 1.79 | 9432  | 37915 |  | 100 |
|  | 99  | 3081 | 11895 | 1.95 | 1.87 | 9249  | 37238 |  | 100 |
|  | 98  | 2722 | 11733 | 1.76 | 1.81 | 9436  | 37688 |  | 100 |
|  | 98  | 3080 | 11621 | 1.90 | 1.79 | 9476  | 37955 |  | 100 |
|  | 99  | 2991 | 11888 | 1.97 | 1.85 | 8834  | 36929 |  | 100 |
|  | 98  | 3045 | 11703 | 1.93 | 1.80 | 9370  | 37870 |  | 100 |
|  | 100 | 2926 | 12002 | 1.84 | 1.93 | 9304  | 35631 |  | 100 |
|  | 99  | 2675 | 11790 | 1.71 | 1.84 | 9370  | 37033 |  | 100 |
|  | 99  | 2857 | 11503 | 1.79 | 1.75 | 9548  | 38434 |  | 100 |
|  | 99  | 2706 | 11726 | 1.74 | 1.83 | 9332  | 37310 |  | 100 |
|  | 99  | 2996 | 11893 | 1.84 | 1.82 | 9641  | 37773 |  | 100 |
|  | 99  | 2856 | 11955 | 1.80 | 1.88 | 9420  | 36597 |  | 100 |
|  | 100 | 2992 | 11679 | 1.89 | 1.89 | 9364  | 35544 |  | 100 |
|  | 99  | 2829 | 11349 | 1.82 | 1.82 | 9177  | 36339 |  | 100 |
|  | 100 | 3027 | 11989 | 1.84 | 1.82 | 9658  | 38109 |  | 100 |
|  | 100 | 2886 | 12274 | 1.81 | 1.90 | 9379  | 37826 |  | 100 |
|  | 100 | 2727 | 12472 | 1.75 | 1.95 | 9342  | 36580 |  | 100 |
|  | 100 | 2963 | 12135 | 1.84 | 1.87 | 9548  | 37853 |  | 100 |
|  | 100 | 2950 | 11828 | 1.86 | 1.90 | 9270  | 36007 |  | 100 |
|  | 100 | 2624 | 11306 | 1.73 | 1.82 | 9109  | 36639 |  | 100 |
|  | 100 | 3022 | 12023 | 1.88 | 1.81 | 9389  | 38625 |  | 100 |
|  | 100 | 2860 | 11921 | 1.83 | 1.81 | 9377  | 38253 |  | 100 |
|  | 98  | 2861 | 11128 | 1.83 | 1.80 | 9205  | 36018 |  | 100 |
|  | 100 | 2934 | 11264 | 1.82 | 1.78 | 9602  | 37244 |  | 100 |
|  | 100 | 2756 | 11188 | 1.81 | 1.82 | 9287  | 35860 |  | 100 |
|  | 100 | 2853 | 11681 | 1.81 | 1.80 | 9546  | 38323 |  | 100 |
|  | 100 | 2876 | 12313 | 1.83 | 1.87 | 9511  | 37965 |  | 100 |
|  | 98  | 3039 | 11098 | 1.92 | 1.78 | 9208  | 36877 |  | 100 |
|  | 100 | 3042 | 11852 | 1.86 | 1.85 | 9764  | 37294 |  | 100 |
|  | 100 | 3036 | 12307 | 1.88 | 1.90 | 9476  | 37204 |  | 100 |
|  | 100 | 2788 | 11197 | 1.77 | 1.78 | 9322  | 36952 |  | 100 |
|  | 97  | 3203 | 12016 | 1.92 | 1.85 | 9699  | 37702 |  | 100 |
|  | 98  | 2672 | 10911 | 1.79 | 1.76 | 9003  | 36508 |  | 100 |
|  | 100 | 2980 | 12034 | 1.81 | 1.83 | 9790  | 38093 |  | 100 |
|  | 99  | 2637 | 12084 | 1.73 | 1.86 | 9180  | 37266 |  | 100 |
|  | 100 | 2912 | 10603 | 1.78 | 1.68 | 9756  | 37283 |  | 100 |
|  | 99  | 2971 | 12379 | 1.85 | 1.91 | 9358  | 37518 |  | 100 |
|  | 98  | 2873 | 11472 | 1.82 | 1.83 | 9192  | 36671 |  | 100 |
|  | 98  | 2934 | 11897 | 1.80 | 1.79 | 9872  | 38783 |  | 100 |
|  | 98  | 2837 | 11722 | 1.85 | 1.86 | 8946  | 36427 |  | 100 |
|  | 98  | 2885 | 10645 | 1.79 | 1.70 | 9481  | 36961 |  | 100 |
|  | 99  | 2955 | 12579 | 1.76 | 1.90 | 10032 | 38366 |  | 100 |
|  | 99  | 2884 | 11520 | 1.81 | 1.83 | 9554  | 36697 |  | 100 |
|  | 99  | 2794 | 10677 | 1.75 | 1.72 | 9527  | 36889 |  | 100 |
|  | 98  | 2868 | 11896 | 1.80 | 1.85 | 9333  | 37847 |  | 100 |
|  | 100 | 2502 | 11525 | 1.67 | 1.79 | 9128  | 37531 |  | 100 |
|  | 100 | 3139 | 11798 | 1.89 | 1.84 | 9774  | 37245 |  | 100 |
|  | 100 | 2948 | 11860 | 1.87 | 1.82 | 9179  | 37801 |  | 100 |
|  | 99  | 2777 | 11156 | 1.75 | 1.72 | 9422  | 37860 |  | 100 |
|  | 100 | 3221 | 12000 | 1.90 | 1.81 | 9743  | 38514 |  | 100 |
|  | 100 | 2808 | 11841 | 1.81 | 1.84 | 9282  | 37228 |  | 100 |
|  | 99  | 2924 | 11274 | 1.81 | 1.76 | 9456  | 37534 |  | 100 |
|  | 99  | 3027 | 12300 | 1.85 | 1.84 | 9612  | 38800 |  | 100 |
|  | 99  | 3020 | 11772 | 1.84 | 1.84 | 9690  | 37344 |  | 100 |
|  | 100 | 2777 | 11648 | 1.80 | 1.84 | 9121  | 36909 |  | 100 |
|  | 100 | 2796 | 12227 | 1.75 | 1.86 | 9478  | 37931 |  | 100 |
|  | 99  | 2810 | 12446 | 1.81 | 1.93 | 9190  | 37563 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2780 | 11412 | 1.76 | 1.78 | 9293 | 37143 |  | 100 |
|  | 100 | 2860 | 12029 | 1.79 | 1.83 | 9608 | 38357 |  | 100 |
|  | 100 | 3201 | 11571 | 1.95 | 1.79 | 9502 | 38347 |  | 100 |
|  | 100 | 2910 | 11820 | 1.82 | 1.88 | 9384 | 36551 |  | 100 |
|  | 98  | 2980 | 11984 | 1.85 | 1.88 | 9615 | 36954 |  | 100 |
|  | 98  | 2808 | 11522 | 1.82 | 1.84 | 9163 | 36957 |  | 100 |
|  | 100 | 2741 | 11457 | 1.71 | 1.78 | 9706 | 37465 |  | 100 |
|  | 100 | 2938 | 12515 | 1.82 | 1.91 | 9444 | 37608 |  | 100 |
|  | 100 | 2776 | 11786 | 1.75 | 1.83 | 9343 | 37782 |  | 100 |
|  | 100 | 2925 | 12344 | 1.85 | 1.92 | 9212 | 37008 |  | 100 |
|  | 100 | 2887 | 12398 | 1.80 | 1.88 | 9536 | 38504 |  | 100 |
|  | 100 | 2887 | 12053 | 1.83 | 1.83 | 9367 | 38345 |  | 100 |
|  | 99  | 2963 | 11935 | 1.84 | 1.88 | 9540 | 36701 |  | 100 |
|  | 100 | 2831 | 11867 | 1.78 | 1.84 | 9359 | 37179 |  | 100 |
|  | 100 | 3111 | 11507 | 1.89 | 1.79 | 9572 | 37468 |  | 100 |
|  | 100 | 2990 | 12216 | 1.86 | 1.88 | 9453 | 37486 |  | 100 |
|  | 100 | 2864 | 11595 | 1.78 | 1.83 | 9533 | 37087 |  | 100 |
|  | 98  | 2874 | 11975 | 1.84 | 1.83 | 9140 | 38098 |  | 100 |
|  | 99  | 3030 | 12650 | 1.92 | 1.90 | 9375 | 38361 |  | 100 |
|  | 100 | 2837 | 11506 | 1.75 | 1.81 | 9827 | 37104 |  | 100 |
|  | 100 | 3086 | 11963 | 1.90 | 1.84 | 9446 | 37719 |  | 100 |
|  | 99  | 3105 | 11476 | 1.85 | 1.82 | 9666 | 36909 |  | 100 |
|  | 100 | 3001 | 12496 | 1.86 | 1.86 | 9401 | 38702 |  | 100 |
|  | 100 | 2844 | 11800 | 1.77 | 1.83 | 9590 | 37664 |  | 100 |
|  | 100 | 2869 | 11944 | 1.83 | 1.82 | 9282 | 38026 |  | 100 |
|  | 100 | 3180 | 12174 | 1.93 | 1.88 | 9663 | 37255 |  | 100 |
|  | 98  | 3031 | 11914 | 1.84 | 1.86 | 9684 | 36979 |  | 100 |
|  | 98  | 2551 | 12000 | 1.73 | 1.86 | 8935 | 37541 |  | 100 |
|  | 100 | 2757 | 11594 | 1.79 | 1.80 | 9143 | 37340 |  | 100 |
|  | 96  | 2927 | 11257 | 1.81 | 1.77 | 9488 | 37070 |  | 100 |
|  | 100 | 3007 | 11883 | 1.81 | 1.83 | 9697 | 37438 |  | 100 |
|  | 100 | 2946 | 11286 | 1.87 | 1.79 | 9169 | 36932 |  | 100 |
|  | 99  | 2794 | 12547 | 1.75 | 1.90 | 9575 | 37856 |  | 100 |
|  | 100 | 3055 | 11478 | 1.91 | 1.81 | 9588 | 36879 |  | 100 |
|  | 98  | 2944 | 11313 | 1.83 | 1.76 | 9552 | 37384 |  | 100 |
|  | 99  | 2882 | 12161 | 1.80 | 1.87 | 9570 | 37390 |  | 100 |
|  | 99  | 2839 | 11717 | 1.78 | 1.86 | 9388 | 36723 |  | 100 |
|  | 100 | 2794 | 11944 | 1.76 | 1.87 | 9438 | 36979 |  | 100 |
|  | 100 | 2935 | 12472 | 1.82 | 1.86 | 9508 | 38785 |  | 100 |
|  | 99  | 2765 | 11981 | 1.74 | 1.85 | 9369 | 37388 |  | 100 |
|  | 99  | 2994 | 11078 | 1.80 | 1.78 | 9737 | 36829 |  | 100 |
|  | 99  | 3044 | 11383 | 1.88 | 1.81 | 9518 | 37111 |  | 100 |
|  | 98  | 2726 | 11857 | 1.77 | 1.82 | 9238 | 37884 |  | 100 |
|  | 99  | 2968 | 12447 | 1.84 | 1.91 | 9636 | 37301 |  | 100 |
|  | 99  | 2919 | 11681 | 1.81 | 1.83 | 9426 | 37025 |  | 100 |
|  | 97  | 2966 | 11775 | 1.79 | 1.85 | 9822 | 36555 |  | 100 |
|  | 98  | 3156 | 12403 | 1.93 | 1.90 | 9725 | 37791 |  | 100 |
|  | 99  | 2805 | 11605 | 1.79 | 1.83 | 9357 | 36761 |  | 100 |
|  | 97  | 3017 | 11953 | 1.92 | 1.88 | 9289 | 37015 |  | 100 |
|  | 100 | 2993 | 11465 | 1.84 | 1.79 | 9431 | 37745 |  | 100 |
|  | 99  | 2993 | 12071 | 1.88 | 1.87 | 9398 | 37233 |  | 100 |
|  | 100 | 2899 | 12310 | 1.84 | 1.81 | 9483 | 38902 |  | 100 |
|  | 100 | 2899 | 11893 | 1.83 | 1.86 | 9397 | 37102 |  | 100 |
|  | 100 | 2915 | 11855 | 1.83 | 1.83 | 9505 | 37213 |  | 100 |
|  | 99  | 2830 | 11830 | 1.76 | 1.82 | 9474 | 38111 |  | 100 |
|  | 99  | 2972 | 11897 | 1.88 | 1.83 | 9379 | 37549 |  | 100 |
|  | 98  | 2713 | 11934 | 1.74 | 1.82 | 9308 | 37799 |  | 100 |
|  | 99  | 2900 | 12052 | 1.84 | 1.85 | 9254 | 37468 |  | 100 |
|  | 98  | 2916 | 11635 | 1.83 | 1.83 | 9425 | 36877 |  | 100 |
|  | 100 | 2926 | 11691 | 1.86 | 1.84 | 9333 | 36923 |  | 100 |
|  | 100 | 3049 | 11637 | 1.90 | 1.83 | 9494 | 37481 |  | 100 |
|  | 99  | 2977 | 11713 | 1.82 | 1.80 | 9816 | 38219 |  | 100 |
|  | 100 | 2788 | 11841 | 1.79 | 1.85 | 9295 | 37163 |  | 100 |
|  | 99  | 2792 | 12372 | 1.76 | 1.90 | 9183 | 37394 |  | 100 |
|  | 99  | 2815 | 12410 | 1.77 | 1.93 | 9433 | 37187 |  | 100 |
|  | 99  | 2644 | 11857 | 1.71 | 1.85 | 9107 | 37205 |  | 100 |
|  | 96  | 3012 | 11593 | 1.89 | 1.78 | 9271 | 38633 |  | 100 |
|  | 98  | 2768 | 11597 | 1.76 | 1.79 | 9360 | 37441 |  | 100 |
|  | 97  | 2942 | 11774 | 1.83 | 1.84 | 9458 | 36995 |  | 100 |
|  | 100 | 2940 | 12328 | 1.85 | 1.88 | 9290 | 38005 |  | 100 |
|  | 100 | 2968 | 12231 | 1.87 | 1.85 | 9308 | 38741 |  | 100 |
|  | 100 | 2888 | 11107 | 1.81 | 1.72 | 9462 | 37894 |  | 100 |
|  | 97  | 2801 | 11905 | 1.74 | 1.85 | 9756 | 36994 |  | 100 |
|  | 100 | 2832 | 12237 | 1.79 | 1.91 | 9325 | 37095 |  | 100 |
|  | 98  | 2959 | 11796 | 1.83 | 1.86 | 9682 | 36942 |  | 100 |
|  | 99  | 3045 | 11752 | 1.87 | 1.83 | 9430 | 37496 |  | 100 |
|  | 99  | 2990 | 11616 | 1.90 | 1.78 | 9145 | 37780 |  | 100 |
|  | 98  | 3046 | 12312 | 1.90 | 1.87 | 9405 | 38324 |  | 100 |
|  | 100 | 2835 | 11300 | 1.82 | 1.79 | 9357 | 37208 |  | 100 |
|  | 99  | 2915 | 11729 | 1.82 | 1.80 | 9380 | 38092 |  | 100 |
|  | 100 | 2818 | 11567 | 1.76 | 1.84 | 9561 | 36442 |  | 100 |
|  | 97  | 2962 | 11725 | 1.87 | 1.82 | 9342 | 37876 |  | 100 |
|  | 98  | 2960 | 11757 | 1.87 | 1.83 | 9387 | 37397 |  | 100 |
|  | 100 | 2947 | 11283 | 1.84 | 1.80 | 9255 | 36920 |  | 100 |
|  | 100 | 2852 | 11501 | 1.76 | 1.80 | 9651 | 37382 |  | 100 |
|  | 98  | 2866 | 12138 | 1.79 | 1.90 | 9583 | 37243 |  | 100 |
|  | 100 | 2855 | 12004 | 1.80 | 1.84 | 9415 | 37480 |  | 100 |
|  | 100 | 2708 | 12170 | 1.74 | 1.88 | 9337 | 37302 |  | 100 |
|  | 99  | 2947 | 11571 | 1.84 | 1.84 | 9443 | 36702 |  | 100 |
|  | 100 | 2957 | 12312 | 1.82 | 1.92 | 9636 | 36950 |  | 100 |
|  | 99  | 2902 | 11765 | 1.82 | 1.82 | 9417 | 37118 |  | 100 |
|  | 100 | 2806 | 11857 | 1.78 | 1.84 | 9557 | 37265 |  | 100 |
|  | 99  | 2957 | 11941 | 1.84 | 1.84 | 9645 | 37948 |  | 100 |
|  | 98  | 3114 | 11841 | 1.94 | 1.80 | 9542 | 38020 |  | 100 |
|  | 99  | 2935 | 11091 | 1.84 | 1.75 | 9439 | 37348 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2870 | 11596 | 1.83 | 1.82 | 9391 | 37177 | 100 |
| 98  | 3105 | 12332 | 1.93 | 1.86 | 9621 | 38284 | 100 |
| 99  | 3013 | 11470 | 1.87 | 1.79 | 9404 | 37262 | 100 |
| 97  | 2813 | 11879 | 1.80 | 1.88 | 9272 | 36820 | 100 |
| 100 | 2643 | 12339 | 1.75 | 1.90 | 9032 | 38020 | 100 |
| 99  | 3020 | 11347 | 1.83 | 1.78 | 9880 | 36899 | 100 |
| 99  | 2794 | 11630 | 1.81 | 1.81 | 9275 | 37424 | 100 |
| 97  | 3135 | 11475 | 1.93 | 1.83 | 9360 | 36070 | 100 |
| 100 | 2623 | 11337 | 1.68 | 1.76 | 9410 | 37662 | 100 |
| 100 | 2813 | 11356 | 1.82 | 1.80 | 9266 | 36913 | 100 |
| 100 | 2890 | 12324 | 1.80 | 1.89 | 9325 | 37570 | 100 |
| 99  | 3033 | 11240 | 1.87 | 1.78 | 9506 | 37199 | 100 |
| 99  | 2979 | 11993 | 1.82 | 1.88 | 9742 | 37041 | 100 |
| 98  | 2841 | 11486 | 1.81 | 1.81 | 9203 | 36849 | 100 |
| 99  | 2764 | 11744 | 1.76 | 1.80 | 9154 | 37859 | 100 |
| 100 | 2970 | 11971 | 1.82 | 1.83 | 9686 | 38533 | 100 |
| 100 | 2789 | 11885 | 1.77 | 1.84 | 9332 | 37192 | 100 |
| 99  | 2981 | 11322 | 1.84 | 1.79 | 9642 | 36903 | 100 |
| 100 | 3007 | 12034 | 1.84 | 1.85 | 9673 | 37864 | 100 |
| 100 | 2705 | 11667 | 1.67 | 1.84 | 9735 | 36208 | 100 |
| 100 | 2897 | 12316 | 1.81 | 1.87 | 9540 | 37846 | 100 |
| 100 | 2879 | 11883 | 1.78 | 1.84 | 9539 | 37456 | 100 |
| 98  | 2768 | 11757 | 1.83 | 1.82 | 9158 | 37839 | 100 |
| 100 | 2882 | 11409 | 1.79 | 1.80 | 9455 | 37158 | 100 |
| 100 | 2912 | 11677 | 1.80 | 1.84 | 9607 | 37058 | 100 |
| 99  | 2853 | 11853 | 1.82 | 1.86 | 9464 | 37082 | 100 |
| 99  | 3014 | 11585 | 1.87 | 1.83 | 9568 | 36805 | 100 |
| 99  | 3004 | 12202 | 1.88 | 1.93 | 9486 | 37266 | 100 |
| 100 | 2785 | 11697 | 1.78 | 1.79 | 9243 | 38095 | 100 |
| 100 | 3123 | 11486 | 1.91 | 1.81 | 9553 | 36800 | 100 |
| 100 | 2995 | 11497 | 1.87 | 1.83 | 9355 | 36600 | 100 |
| 100 | 3000 | 11769 | 1.87 | 1.82 | 9609 | 37613 | 100 |
| 100 | 2886 | 12060 | 1.81 | 1.86 | 9373 | 37548 | 100 |
| 100 | 2833 | 11687 | 1.79 | 1.81 | 9604 | 37617 | 100 |
| 100 | 2759 | 12332 | 1.74 | 1.91 | 9443 | 37588 | 100 |
| 98  | 2944 | 12521 | 1.86 | 1.90 | 9320 | 37898 | 100 |
| 98  | 2928 | 11678 | 1.86 | 1.85 | 9307 | 37013 | 100 |
| 99  | 2784 | 12060 | 1.79 | 1.90 | 9302 | 36835 | 100 |
| 99  | 2813 | 11927 | 1.79 | 1.87 | 9390 | 37497 | 100 |
| 100 | 2698 | 11798 | 1.73 | 1.84 | 9455 | 37242 | 100 |
| 99  | 2965 | 12137 | 1.82 | 1.86 | 9669 | 37671 | 100 |
| 100 | 2862 | 11159 | 1.81 | 1.80 | 9379 | 36431 | 100 |
| 100 | 2843 | 11882 | 1.78 | 1.84 | 9505 | 37378 | 100 |
| 98  | 2815 | 12198 | 1.83 | 1.87 | 9074 | 38248 | 100 |
| 100 | 2947 | 11982 | 1.85 | 1.86 | 9326 | 37438 | 100 |
| 100 | 2968 | 11613 | 1.85 | 1.76 | 9470 | 38601 | 100 |
| 99  | 2998 | 11314 | 1.87 | 1.81 | 9402 | 37248 | 100 |
| 100 | 2928 | 11685 | 1.81 | 1.84 | 9658 | 37187 | 100 |
| 100 | 3134 | 11774 | 1.88 | 1.86 | 9751 | 36919 | 100 |
| 99  | 2964 | 12138 | 1.86 | 1.89 | 9538 | 37640 | 100 |
| 99  | 3258 | 11973 | 1.96 | 1.84 | 9570 | 37996 | 100 |
| 99  | 2986 | 11380 | 1.88 | 1.80 | 9261 | 36923 | 100 |
| 100 | 2886 | 11621 | 1.80 | 1.80 | 9619 | 38054 | 100 |
| 99  | 2826 | 11853 | 1.77 | 1.85 | 9406 | 37052 | 100 |
| 99  | 2834 | 11777 | 1.82 | 1.82 | 9091 | 37660 | 100 |
| 100 | 2861 | 11626 | 1.81 | 1.79 | 9460 | 37635 | 100 |
| 98  | 2996 | 11871 | 1.86 | 1.84 | 9532 | 37332 | 100 |
| 100 | 2896 | 11589 | 1.82 | 1.82 | 9461 | 37833 | 100 |
| 100 | 2869 | 11786 | 1.81 | 1.87 | 9480 | 36053 | 100 |
| 99  | 3041 | 11980 | 1.90 | 1.85 | 9448 | 37757 | 100 |
| 100 | 2858 | 10800 | 1.78 | 1.75 | 9529 | 36576 | 100 |
| 98  | 3011 | 12113 | 1.87 | 1.88 | 9404 | 37096 | 100 |
| 99  | 2785 | 11469 | 1.80 | 1.81 | 9357 | 37125 | 100 |
| 98  | 2849 | 12204 | 1.81 | 1.84 | 9239 | 38056 | 100 |
| 99  | 2928 | 11572 | 1.84 | 1.82 | 9319 | 37091 | 100 |
| 100 | 3027 | 11686 | 1.82 | 1.82 | 9787 | 37360 | 100 |
| 100 | 2943 | 11720 | 1.85 | 1.83 | 9557 | 37167 | 100 |
| 100 | 2992 | 12228 | 1.89 | 1.89 | 9291 | 37280 | 100 |
| 98  | 2984 | 11539 | 1.90 | 1.79 | 9172 | 37938 | 100 |
| 98  | 2959 | 11843 | 1.85 | 1.79 | 9314 | 38320 | 100 |
| 99  | 2720 | 12863 | 1.74 | 1.92 | 9386 | 38644 | 100 |
| 100 | 2918 | 12305 | 1.82 | 1.88 | 9318 | 38296 | 100 |
| 100 | 2738 | 11759 | 1.77 | 1.81 | 9153 | 37741 | 100 |
| 100 | 3031 | 11390 | 1.85 | 1.79 | 9694 | 37062 | 100 |
| 100 | 2882 | 12873 | 1.80 | 1.96 | 9266 | 37558 | 100 |
| 100 | 2744 | 12448 | 1.74 | 1.90 | 9422 | 37969 | 100 |
| 99  | 2858 | 11568 | 1.75 | 1.80 | 9724 | 37333 | 100 |
| 100 | 2929 | 11651 | 1.85 | 1.84 | 9469 | 36938 | 100 |
| 99  | 2741 | 10841 | 1.77 | 1.73 | 9500 | 37055 | 100 |
| 97  | 3031 | 11469 | 1.90 | 1.78 | 9450 | 37697 | 100 |
| 100 | 3033 | 12616 | 1.89 | 1.92 | 9409 | 37740 | 100 |
| 99  | 3035 | 11445 | 1.87 | 1.77 | 9616 | 37889 | 100 |
| 100 | 2922 | 11955 | 1.80 | 1.87 | 9564 | 37021 | 100 |
| 99  | 2861 | 11503 | 1.84 | 1.80 | 9345 | 37182 | 100 |
| 99  | 2920 | 11933 | 1.84 | 1.83 | 9516 | 37851 | 100 |
| 100 | 2755 | 11782 | 1.78 | 1.83 | 9385 | 37565 | 100 |
| 100 | 2902 | 11941 | 1.81 | 1.87 | 9642 | 36790 | 100 |
| 100 | 2873 | 11860 | 1.83 | 1.84 | 9377 | 37278 | 100 |
| 99  | 2840 | 11559 | 1.75 | 1.86 | 9759 | 36480 | 100 |
| 100 | 2835 | 11797 | 1.85 | 1.85 | 9043 | 36878 | 100 |
| 95  | 2992 | 11810 | 1.85 | 1.84 | 9478 | 37165 | 100 |
| 100 | 2938 | 11635 | 1.90 | 1.79 | 9323 | 37608 | 100 |
| 100 | 2819 | 12036 | 1.80 | 1.87 | 9473 | 36867 | 100 |
| 98  | 2912 | 11178 | 1.81 | 1.79 | 9638 | 36457 | 100 |
| 98  | 2875 | 12141 | 1.82 | 1.85 | 9617 | 37789 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2880 | 12485 | 1.83 | 1.88 | 9376 | 37931 |  | 100 |
|  | 99  | 2846 | 11977 | 1.80 | 1.87 | 9441 | 36921 |  | 100 |
|  | 99  | 2816 | 11655 | 1.79 | 1.81 | 9299 | 38000 |  | 100 |
|  | 98  | 2753 | 12311 | 1.78 | 1.89 | 9233 | 37151 |  | 100 |
|  | 100 | 2774 | 12369 | 1.78 | 1.90 | 9277 | 37305 |  | 100 |
|  | 100 | 2661 | 11458 | 1.73 | 1.78 | 9367 | 37766 |  | 100 |
|  | 99  | 2780 | 11478 | 1.78 | 1.82 | 9498 | 37139 |  | 100 |
|  | 100 | 2854 | 12413 | 1.77 | 1.88 | 9794 | 37853 |  | 100 |
|  | 100 | 3138 | 11967 | 1.91 | 1.84 | 9569 | 37848 |  | 100 |
|  | 100 | 2985 | 11849 | 1.86 | 1.85 | 9386 | 37319 |  | 100 |
|  | 100 | 2853 | 12800 | 1.80 | 1.92 | 9403 | 37886 |  | 100 |
|  | 100 | 3016 | 11238 | 1.83 | 1.78 | 9766 | 36938 |  | 100 |
|  | 99  | 2894 | 11737 | 1.87 | 1.83 | 9250 | 37311 |  | 100 |
|  | 100 | 2841 | 11616 | 1.75 | 1.80 | 9788 | 37336 |  | 100 |
|  | 100 | 2812 | 11449 | 1.81 | 1.81 | 9298 | 37445 |  | 100 |
|  | 100 | 2899 | 12341 | 1.83 | 1.86 | 9290 | 37986 |  | 100 |
|  | 98  | 2962 | 11686 | 1.85 | 1.81 | 9399 | 37835 |  | 100 |
|  | 99  | 3231 | 11487 | 1.95 | 1.80 | 9711 | 36959 |  | 100 |
|  | 100 | 2722 | 11505 | 1.77 | 1.78 | 9376 | 37438 |  | 100 |
|  | 100 | 2795 | 11525 | 1.75 | 1.84 | 9411 | 36407 |  | 100 |
|  | 99  | 2971 | 11899 | 1.83 | 1.85 | 9532 | 37118 |  | 100 |
|  | 99  | 2858 | 12379 | 1.84 | 1.88 | 9294 | 37847 |  | 100 |
|  | 97  | 2993 | 11463 | 1.86 | 1.78 | 9377 | 37507 |  | 100 |
|  | 98  | 2996 | 11428 | 1.84 | 1.77 | 9591 | 37450 |  | 100 |
|  | 99  | 2832 | 11410 | 1.79 | 1.81 | 9385 | 36607 |  | 100 |
|  | 100 | 2838 | 12389 | 1.82 | 1.90 | 9380 | 37591 |  | 100 |
|  | 97  | 3065 | 11358 | 1.93 | 1.80 | 9353 | 37247 |  | 100 |
|  | 100 | 3041 | 12089 | 1.88 | 1.84 | 9501 | 37892 |  | 100 |
|  | 97  | 2940 | 11644 | 1.86 | 1.82 | 9255 | 37044 |  | 100 |
|  | 100 | 2910 | 11929 | 1.76 | 1.83 | 9713 | 37745 |  | 100 |
|  | 99  | 2819 | 11353 | 1.84 | 1.78 | 9312 | 37405 |  | 100 |
|  | 100 | 2980 | 11450 | 1.84 | 1.78 | 9335 | 37370 |  | 100 |
|  | 100 | 2819 | 11405 | 1.76 | 1.79 | 9472 | 37019 |  | 100 |
|  | 100 | 2825 | 11399 | 1.79 | 1.81 | 9261 | 36906 |  | 100 |
|  | 100 | 2807 | 11739 | 1.78 | 1.85 | 9415 | 36701 |  | 100 |
|  | 98  | 3016 | 11775 | 1.89 | 1.85 | 9490 | 37672 |  | 100 |
|  | 97  | 2831 | 11445 | 1.78 | 1.77 | 9262 | 38241 |  | 100 |
|  | 100 | 2851 | 11171 | 1.76 | 1.82 | 9694 | 36427 |  | 100 |
|  | 99  | 2886 | 12094 | 1.82 | 1.87 | 9459 | 37612 |  | 100 |
|  | 99  | 2697 | 12438 | 1.74 | 1.91 | 9320 | 37603 |  | 100 |
|  | 99  | 2901 | 11845 | 1.82 | 1.83 | 9340 | 37505 |  | 100 |
|  | 100 | 2797 | 12472 | 1.73 | 1.91 | 9605 | 37618 |  | 100 |
|  | 99  | 3153 | 11689 | 1.95 | 1.83 | 9466 | 37879 |  | 100 |
|  | 99  | 2900 | 11901 | 1.79 | 1.83 | 9608 | 37651 |  | 100 |
|  | 98  | 2946 | 11302 | 1.82 | 1.77 | 9494 | 37604 |  | 100 |
|  | 99  | 2923 | 11878 | 1.81 | 1.82 | 9568 | 37986 |  | 100 |
|  | 98  | 2848 | 12087 | 1.82 | 1.86 | 9370 | 37466 |  | 100 |
|  | 99  | 2940 | 12071 | 1.80 | 1.85 | 9504 | 37858 |  | 100 |
|  | 98  | 3029 | 11493 | 1.85 | 1.82 | 9583 | 36359 |  | 100 |
|  | 99  | 2979 | 10860 | 1.85 | 1.76 | 9470 | 36472 |  | 100 |
|  | 100 | 3143 | 11835 | 1.91 | 1.83 | 9621 | 37534 |  | 100 |
|  | 100 | 3022 | 12010 | 1.88 | 1.87 | 9320 | 36986 |  | 100 |
|  | 100 | 2677 | 11617 | 1.71 | 1.83 | 9450 | 36831 |  | 100 |
|  | 100 | 2860 | 11952 | 1.81 | 1.81 | 9424 | 38339 |  | 100 |
|  | 99  | 3139 | 12021 | 1.91 | 1.86 | 9523 | 37790 |  | 100 |
|  | 99  | 3044 | 11550 | 1.83 | 1.81 | 9855 | 37042 |  | 100 |
|  | 99  | 2697 | 11181 | 1.72 | 1.78 | 9505 | 36687 |  | 100 |
|  | 100 | 2984 | 12609 | 1.85 | 1.93 | 9376 | 37638 |  | 100 |
|  | 99  | 2831 | 11377 | 1.84 | 1.82 | 9011 | 36176 |  | 100 |
|  | 100 | 3019 | 11110 | 1.84 | 1.75 | 9545 | 37211 |  | 100 |
|  | 100 | 2813 | 12238 | 1.78 | 1.90 | 9323 | 37768 |  | 100 |
|  | 100 | 3022 | 11547 | 1.87 | 1.78 | 9466 | 37405 |  | 100 |
|  | 99  | 3241 | 12007 | 1.92 | 1.85 | 9965 | 38368 |  | 100 |
|  | 98  | 2850 | 11304 | 1.77 | 1.78 | 9554 | 37655 |  | 100 |
|  | 99  | 3215 | 11730 | 1.96 | 1.84 | 9637 | 36844 |  | 100 |
|  | 99  | 2692 | 10919 | 1.70 | 1.73 | 9355 | 37348 |  | 100 |
|  | 100 | 3135 | 11837 | 1.94 | 1.85 | 9211 | 37169 |  | 100 |
|  | 100 | 2958 | 12003 | 1.84 | 1.89 | 9542 | 36935 |  | 100 |
|  | 99  | 3048 | 11759 | 1.84 | 1.80 | 9619 | 38053 |  | 100 |
|  | 99  | 2945 | 11734 | 1.83 | 1.90 | 9553 | 35650 |  | 100 |
|  | 99  | 2791 | 11725 | 1.72 | 1.77 | 9550 | 38645 |  | 100 |
|  | 100 | 2719 | 11860 | 1.78 | 1.85 | 9207 | 37068 |  | 100 |
|  | 100 | 2909 | 12261 | 1.80 | 1.87 | 9582 | 38719 |  | 100 |
|  | 100 | 2962 | 12179 | 1.92 | 1.85 | 9035 | 37738 |  | 100 |
|  | 99  | 3065 | 11572 | 1.92 | 1.83 | 9262 | 36780 |  | 100 |
|  | 100 | 2841 | 11790 | 1.80 | 1.82 | 9460 | 38340 |  | 100 |
|  | 100 | 2688 | 11009 | 1.75 | 1.75 | 9309 | 36724 |  | 100 |
|  | 100 | 2954 | 11672 | 1.86 | 1.78 | 9299 | 38617 |  | 100 |
|  | 98  | 2840 | 11608 | 1.87 | 1.84 | 9050 | 37199 |  | 100 |
|  | 100 | 2910 | 12306 | 1.79 | 1.88 | 9789 | 37462 |  | 100 |
|  | 99  | 2957 | 12391 | 1.91 | 1.90 | 9024 | 37272 |  | 100 |
|  | 100 | 2708 | 11755 | 1.78 | 1.84 | 9191 | 37492 |  | 100 |
|  | 99  | 2886 | 12583 | 1.85 | 1.91 | 9178 | 37885 |  | 100 |
|  | 99  | 2794 | 12024 | 1.73 | 1.83 | 9661 | 38115 |  | 100 |
|  | 98  | 2822 | 11958 | 1.81 | 1.91 | 9118 | 36055 |  | 100 |
|  | 98  | 3062 | 11356 | 1.88 | 1.76 | 9518 | 37787 |  | 100 |
|  | 100 | 2764 | 11880 | 1.80 | 1.86 | 9207 | 36803 |  | 100 |
|  | 100 | 3002 | 11546 | 1.84 | 1.76 | 9362 | 38543 |  | 100 |
|  | 99  | 2870 | 12027 | 1.78 | 1.89 | 9548 | 36867 |  | 100 |
|  | 100 | 2858 | 12321 | 1.80 | 1.86 | 9478 | 38217 |  | 100 |
|  | 98  | 2982 | 11908 | 1.84 | 1.85 | 9473 | 37314 |  | 100 |
|  | 100 | 2674 | 11675 | 1.77 | 1.87 | 9038 | 36297 |  | 100 |
|  | 98  | 3114 | 11999 | 1.86 | 1.85 | 9804 | 38098 |  | 100 |
|  | 100 | 2889 | 11598 | 1.79 | 1.80 | 9763 | 37246 |  | 100 |
|  | 99  | 2840 | 12588 | 1.77 | 1.96 | 9739 | 36798 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2841 | 11843 | 1.78 | 1.84 | 9445 | 37916 |  | 100 |
|  | 98  | 3045 | 12089 | 1.88 | 1.83 | 9482 | 38064 |  | 100 |
|  | 99  | 2766 | 11371 | 1.81 | 1.77 | 9151 | 37818 |  | 100 |
|  | 100 | 2993 | 11923 | 1.88 | 1.81 | 9248 | 38171 |  | 100 |
|  | 100 | 2668 | 11943 | 1.71 | 1.84 | 9541 | 38003 |  | 100 |
|  | 100 | 2809 | 12545 | 1.81 | 1.88 | 9183 | 38532 |  | 100 |
|  | 100 | 2616 | 11639 | 1.71 | 1.81 | 9407 | 37594 |  | 100 |
|  | 99  | 3207 | 12112 | 1.96 | 1.85 | 9454 | 37975 |  | 100 |
|  | 100 | 2994 | 12005 | 1.81 | 1.87 | 9795 | 37896 |  | 100 |
|  | 99  | 3018 | 12366 | 1.89 | 1.88 | 9408 | 38003 |  | 100 |
|  | 100 | 2853 | 11720 | 1.82 | 1.82 | 9302 | 37542 |  | 100 |
|  | 99  | 2904 | 11521 | 1.81 | 1.78 | 9537 | 37773 |  | 100 |
|  | 98  | 2997 | 12072 | 1.87 | 1.86 | 9522 | 37785 |  | 100 |
|  | 99  | 2722 | 11224 | 1.74 | 1.76 | 9421 | 37731 |  | 100 |
|  | 100 | 3003 | 11773 | 1.89 | 1.79 | 9290 | 37873 |  | 100 |
|  | 98  | 2993 | 11388 | 1.89 | 1.82 | 9356 | 36696 |  | 100 |
|  | 98  | 3001 | 12481 | 1.86 | 1.91 | 9698 | 37425 |  | 100 |
|  | 98  | 2693 | 11798 | 1.77 | 1.83 | 9013 | 37420 |  | 100 |
|  | 99  | 3048 | 11887 | 1.91 | 1.81 | 9497 | 38307 |  | 100 |
|  | 100 | 2752 | 11798 | 1.78 | 1.83 | 9261 | 37320 |  | 100 |
|  | 100 | 2820 | 12604 | 1.82 | 1.93 | 9204 | 37531 |  | 100 |
|  | 99  | 3306 | 12132 | 2.01 | 1.82 | 9610 | 38250 |  | 100 |
|  | 100 | 3071 | 11320 | 1.90 | 1.81 | 9555 | 36276 |  | 100 |
|  | 99  | 2920 | 12541 | 1.79 | 1.85 | 9629 | 38872 |  | 100 |
|  | 100 | 2936 | 13034 | 1.83 | 1.99 | 9390 | 37375 |  | 100 |
|  | 100 | 2791 | 11469 | 1.74 | 1.76 | 9490 | 38022 |  | 100 |
|  | 100 | 2986 | 12132 | 1.94 | 1.91 | 9229 | 36514 |  | 100 |
|  | 99  | 2927 | 11860 | 1.77 | 1.81 | 9857 | 38266 |  | 100 |
|  | 99  | 2871 | 12736 | 1.83 | 1.93 | 9411 | 37556 |  | 100 |
|  | 99  | 2902 | 10852 | 1.90 | 1.74 | 9020 | 36504 |  | 100 |
|  | 99  | 2945 | 11946 | 1.76 | 1.85 | 9886 | 37884 |  | 100 |
|  | 100 | 2615 | 11687 | 1.73 | 1.85 | 9299 | 36475 |  | 100 |
|  | 99  | 2994 | 11671 | 1.86 | 1.77 | 9550 | 38597 |  | 100 |
|  | 99  | 2946 | 11577 | 1.88 | 1.85 | 9208 | 36424 |  | 100 |
|  | 99  | 3018 | 11742 | 1.85 | 1.84 | 9557 | 37154 |  | 100 |
|  | 100 | 2741 | 11483 | 1.77 | 1.83 | 9409 | 36604 |  | 100 |
|  | 100 | 3101 | 12528 | 1.94 | 1.94 | 9280 | 37703 |  | 100 |
|  | 99  | 2710 | 11457 | 1.73 | 1.81 | 9360 | 37074 |  | 100 |
|  | 99  | 2982 | 11271 | 1.82 | 1.78 | 9669 | 37348 |  | 100 |
|  | 99  | 3034 | 12690 | 1.87 | 1.95 | 9445 | 37177 |  | 100 |
|  | 100 | 2878 | 11697 | 1.80 | 1.80 | 9505 | 38394 |  | 100 |
|  | 100 | 2898 | 11512 | 1.80 | 1.79 | 9578 | 37354 |  | 100 |
|  | 100 | 2889 | 11651 | 1.84 | 1.80 | 9306 | 37655 |  | 100 |
|  | 100 | 2817 | 12187 | 1.78 | 1.85 | 9516 | 37699 |  | 100 |
|  | 100 | 2794 | 11063 | 1.78 | 1.77 | 9418 | 36705 |  | 100 |
|  | 97  | 2845 | 11891 | 1.81 | 1.86 | 9460 | 37047 |  | 100 |
|  | 100 | 2889 | 11910 | 1.77 | 1.84 | 9663 | 37251 |  | 100 |
|  | 99  | 2876 | 11565 | 1.85 | 1.81 | 9154 | 37079 |  | 100 |
|  | 98  | 2778 | 11553 | 1.75 | 1.81 | 9479 | 37262 |  | 100 |
|  | 100 | 2911 | 12176 | 1.82 | 1.87 | 9435 | 37726 |  | 100 |
|  | 96  | 2675 | 11572 | 1.71 | 1.79 | 9431 | 37746 |  | 100 |
|  | 100 | 2836 | 11816 | 1.83 | 1.85 | 9318 | 36856 |  | 100 |
|  | 99  | 2799 | 11951 | 1.72 | 1.86 | 9696 | 37613 |  | 100 |
|  | 100 | 2551 | 11404 | 1.66 | 1.79 | 9267 | 37107 |  | 100 |
|  | 100 | 2683 | 12159 | 1.71 | 1.85 | 9552 | 38047 |  | 100 |
|  | 99  | 2940 | 12143 | 1.91 | 1.84 | 9002 | 37950 |  | 100 |
|  | 100 | 2906 | 11575 | 1.82 | 1.80 | 9442 | 37049 |  | 100 |
|  | 100 | 2900 | 11781 | 1.86 | 1.85 | 9282 | 36885 |  | 100 |
|  | 99  | 2816 | 11435 | 1.75 | 1.77 | 9485 | 38087 |  | 100 |
|  | 100 | 2980 | 11847 | 1.93 | 1.81 | 9021 | 37991 |  | 100 |
|  | 100 | 3046 | 11397 | 1.92 | 1.76 | 9329 | 37510 |  | 100 |
|  | 100 | 2960 | 11457 | 1.84 | 1.81 | 9431 | 37223 |  | 100 |
|  | 100 | 2811 | 11882 | 1.81 | 1.85 | 9071 | 37341 |  | 100 |
|  | 99  | 2903 | 12223 | 1.82 | 1.87 | 9436 | 37849 |  | 100 |
|  | 98  | 2833 | 11379 | 1.80 | 1.78 | 9465 | 37817 |  | 100 |
|  | 100 | 2924 | 11861 | 1.81 | 1.84 | 9491 | 37290 |  | 100 |
|  | 100 | 2952 | 11442 | 1.87 | 1.83 | 9313 | 36630 |  | 100 |
|  | 98  | 3131 | 11841 | 1.93 | 1.83 | 9451 | 37514 |  | 100 |
|  | 100 | 2884 | 11226 | 1.84 | 1.77 | 9302 | 37249 |  | 100 |
|  | 99  | 3162 | 11547 | 1.93 | 1.82 | 9372 | 37016 |  | 100 |
|  | 99  | 2961 | 12018 | 1.81 | 1.86 | 9737 | 37359 |  | 100 |
|  | 96  | 3119 | 10585 | 1.89 | 1.75 | 9608 | 35821 |  | 100 |
|  | 100 | 3008 | 11982 | 1.80 | 1.85 | 9848 | 37633 |  | 100 |
|  | 100 | 2860 | 11736 | 1.83 | 1.84 | 9219 | 36958 |  | 100 |
|  | 99  | 2853 | 11862 | 1.80 | 1.84 | 9284 | 36937 |  | 100 |
|  | 99  | 2879 | 11282 | 1.85 | 1.75 | 9321 | 37910 |  | 100 |
|  | 100 | 2859 | 11720 | 1.76 | 1.81 | 9639 | 37298 |  | 100 |
|  | 99  | 2670 | 12074 | 1.78 | 1.88 | 9071 | 36822 |  | 100 |
|  | 100 | 2777 | 11716 | 1.76 | 1.82 | 9245 | 37681 |  | 100 |
|  | 99  | 2702 | 11083 | 1.72 | 1.74 | 9481 | 37377 |  | 100 |
|  | 100 | 2835 | 12024 | 1.83 | 1.83 | 9177 | 38232 |  | 100 |
|  | 98  | 2842 | 11645 | 1.73 | 1.80 | 9777 | 38084 |  | 100 |
|  | 98  | 3208 | 12050 | 1.92 | 1.83 | 9954 | 38607 |  | 100 |
|  | 100 | 2752 | 12057 | 1.77 | 1.89 | 9408 | 36893 |  | 100 |
|  | 99  | 3115 | 12020 | 1.90 | 1.82 | 9754 | 38033 |  | 100 |
|  | 100 | 2728 | 11926 | 1.75 | 1.89 | 9287 | 36904 |  | 100 |
|  | 100 | 3063 | 11974 | 1.82 | 1.85 | 9993 | 37617 |  | 100 |
|  | 100 | 2759 | 11872 | 1.75 | 1.83 | 9372 | 37830 |  | 100 |
|  | 99  | 2767 | 11072 | 1.77 | 1.73 | 9383 | 38365 |  | 100 |
|  | 100 | 2782 | 12512 | 1.81 | 1.91 | 9132 | 37410 |  | 100 |
|  | 100 | 2654 | 12963 | 1.78 | 1.96 | 8814 | 38235 |  | 100 |
|  | 99  | 3007 | 12050 | 1.92 | 1.84 | 9236 | 38621 |  | 100 |
|  | 100 | 3089 | 12162 | 1.87 | 1.84 | 9627 | 38377 |  | 100 |
|  | 98  | 2771 | 11721 | 1.83 | 1.80 | 9206 | 37924 |  | 100 |
|  | 100 | 2848 | 12233 | 1.81 | 1.84 | 9214 | 38472 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2761 | 11977 | 1.82 | 1.89 | 8876 | 37145 | 100 |
| 99  | 2994 | 12183 | 1.87 | 1.88 | 9300 | 37440 | 100 |
| 100 | 2932 | 11701 | 1.88 | 1.81 | 9226 | 37522 | 100 |
| 100 | 3135 | 11890 | 1.88 | 1.84 | 9729 | 37391 | 100 |
| 100 | 2704 | 11786 | 1.72 | 1.82 | 9490 | 37947 | 100 |
| 99  | 2864 | 12027 | 1.78 | 1.86 | 9572 | 37336 | 100 |
| 98  | 2995 | 11533 | 1.85 | 1.81 | 9469 | 37385 | 100 |
| 100 | 2953 | 11068 | 1.88 | 1.73 | 9154 | 37729 | 100 |
| 99  | 3204 | 11154 | 2.01 | 1.81 | 9275 | 36348 | 100 |
| 99  | 2794 | 11246 | 1.80 | 1.82 | 9256 | 36112 | 100 |
| 100 | 2689 | 12296 | 1.69 | 1.85 | 9460 | 38792 | 100 |
| 100 | 2925 | 12430 | 1.80 | 1.89 | 9654 | 37559 | 100 |
| 99  | 2909 | 11107 | 1.90 | 1.78 | 9082 | 36241 | 100 |
| 100 | 3021 | 12427 | 1.88 | 1.89 | 9372 | 38238 | 100 |
| 99  | 2793 | 11168 | 1.74 | 1.79 | 9709 | 36426 | 100 |
| 100 | 2902 | 11243 | 1.76 | 1.76 | 9941 | 37153 | 100 |
| 99  | 3153 | 12124 | 1.92 | 1.87 | 9449 | 37485 | 100 |
| 100 | 2922 | 11743 | 1.84 | 1.84 | 9404 | 37208 | 100 |
| 100 | 2796 | 11372 | 1.73 | 1.78 | 9662 | 37485 | 100 |
| 99  | 3005 | 11583 | 1.88 | 1.83 | 9277 | 37031 | 100 |
| 100 | 2946 | 11380 | 1.86 | 1.81 | 9385 | 36664 | 100 |
| 98  | 2746 | 12347 | 1.74 | 1.88 | 9423 | 37580 | 100 |
| 100 | 2704 | 10657 | 1.74 | 1.75 | 9247 | 36333 | 100 |
| 99  | 2852 | 11755 | 1.80 | 1.81 | 9496 | 37921 | 100 |
| 100 | 2876 | 11902 | 1.85 | 1.86 | 9254 | 37205 | 100 |
| 100 | 3108 | 11778 | 1.93 | 1.87 | 9530 | 36586 | 100 |
| 100 | 2868 | 11466 | 1.81 | 1.80 | 9502 | 37287 | 100 |
| 100 | 2731 | 12623 | 1.79 | 1.94 | 8911 | 37378 | 100 |
| 100 | 2843 | 11933 | 1.76 | 1.85 | 9793 | 38096 | 100 |
| 100 | 2784 | 11588 | 1.80 | 1.83 | 9250 | 37039 | 100 |
| 100 | 2946 | 11992 | 1.87 | 1.85 | 9323 | 37794 | 100 |
| 100 | 2959 | 10972 | 1.82 | 1.81 | 9409 | 35387 | 100 |
| 98  | 2954 | 11974 | 1.83 | 1.83 | 9506 | 38079 | 100 |
| 100 | 3101 | 12561 | 1.91 | 1.92 | 9794 | 37307 | 100 |
| 99  | 2962 | 12169 | 1.86 | 1.90 | 9286 | 37478 | 100 |
| 100 | 3061 | 11513 | 1.89 | 1.81 | 9524 | 37231 | 100 |
| 100 | 2824 | 11724 | 1.83 | 1.83 | 9158 | 37383 | 100 |
| 100 | 2878 | 12148 | 1.84 | 1.86 | 9539 | 37582 | 100 |
| 99  | 2824 | 11398 | 1.80 | 1.83 | 9376 | 36486 | 100 |
| 99  | 3058 | 12378 | 1.85 | 1.91 | 9696 | 37291 | 100 |
| 100 | 2830 | 11094 | 1.82 | 1.78 | 9364 | 36843 | 100 |
| 100 | 2818 | 11964 | 1.74 | 1.82 | 9590 | 38318 | 100 |
| 97  | 2844 | 12581 | 1.76 | 1.85 | 9454 | 39705 | 100 |
| 98  | 2830 | 11976 | 1.80 | 1.85 | 9327 | 37341 | 100 |
| 100 | 2875 | 11240 | 1.83 | 1.77 | 9274 | 36836 | 100 |
| 100 | 2846 | 12209 | 1.82 | 1.86 | 9185 | 37701 | 100 |
| 98  | 2899 | 11976 | 1.80 | 1.85 | 9415 | 37298 | 100 |
| 98  | 3109 | 10939 | 1.88 | 1.72 | 9703 | 37553 | 100 |
| 100 | 2921 | 11958 | 1.86 | 1.89 | 9324 | 36646 | 100 |
| 100 | 2865 | 11661 | 1.80 | 1.84 | 9434 | 36610 | 100 |
| 99  | 2957 | 11754 | 1.81 | 1.78 | 9535 | 38540 | 100 |
| 99  | 2844 | 11164 | 1.81 | 1.70 | 9251 | 38813 | 100 |
| 100 | 2738 | 11197 | 1.75 | 1.77 | 9466 | 36521 | 100 |
| 99  | 3007 | 11806 | 1.84 | 1.81 | 9575 | 38046 | 100 |
| 100 | 2965 | 11975 | 1.89 | 1.90 | 9460 | 36659 | 100 |
| 100 | 2875 | 12165 | 1.76 | 1.89 | 9856 | 37584 | 100 |
| 100 | 2997 | 11633 | 1.87 | 1.81 | 9341 | 37181 | 100 |
| 99  | 2986 | 12180 | 1.84 | 1.84 | 9632 | 38331 | 100 |
| 99  | 2675 | 11312 | 1.75 | 1.76 | 9284 | 38074 | 100 |
| 100 | 2751 | 11469 | 1.84 | 1.79 | 8949 | 37585 | 100 |
| 100 | 2930 | 12157 | 1.84 | 1.86 | 9303 | 37840 | 100 |
| 100 | 3081 | 12245 | 1.93 | 1.97 | 9356 | 36366 | 100 |
| 99  | 2988 | 11873 | 1.82 | 1.83 | 9710 | 37621 | 100 |
| 100 | 2710 | 11949 | 1.76 | 1.84 | 9317 | 37692 | 100 |
| 100 | 2825 | 12867 | 1.77 | 1.90 | 9451 | 38898 | 100 |
| 100 | 2756 | 12125 | 1.79 | 1.87 | 9279 | 37743 | 100 |
| 100 | 2967 | 12086 | 1.85 | 1.85 | 9466 | 37459 | 100 |
| 99  | 2852 | 11256 | 1.81 | 1.81 | 9250 | 36263 | 100 |
| 100 | 3158 | 11907 | 1.92 | 1.81 | 9691 | 38895 | 100 |
| 100 | 2850 | 12183 | 1.82 | 1.90 | 9319 | 36718 | 100 |
| 100 | 2708 | 12038 | 1.75 | 1.84 | 9360 | 37849 | 100 |
| 100 | 3031 | 12253 | 1.89 | 1.87 | 9312 | 37617 | 100 |
| 100 | 2886 | 11229 | 1.76 | 1.73 | 9863 | 37948 | 100 |
| 99  | 3072 | 11584 | 1.88 | 1.82 | 9545 | 37330 | 100 |
| 100 | 2706 | 11691 | 1.72 | 1.88 | 9556 | 36156 | 100 |
| 98  | 2832 | 11037 | 1.74 | 1.72 | 9719 | 37766 | 100 |
| 100 | 2944 | 11451 | 1.86 | 1.86 | 9328 | 36039 | 100 |
| 100 | 2867 | 12391 | 1.76 | 1.89 | 9883 | 37758 | 100 |
| 99  | 2721 | 11966 | 1.82 | 1.89 | 8908 | 36546 | 100 |
| 100 | 3076 | 11701 | 1.86 | 1.78 | 9538 | 38445 | 100 |
| 100 | 2880 | 11708 | 1.81 | 1.81 | 9369 | 37310 | 100 |
| 100 | 2759 | 12266 | 1.75 | 1.87 | 9435 | 37747 | 100 |
| 100 | 3025 | 12164 | 1.84 | 1.94 | 9522 | 36280 | 100 |
| 99  | 2838 | 11928 | 1.78 | 1.86 | 9460 | 37149 | 100 |
| 100 | 2901 | 12198 | 1.85 | 1.86 | 9468 | 38125 | 100 |
| 99  | 2570 | 11449 | 1.73 | 1.80 | 9001 | 37450 | 100 |
| 100 | 2955 | 12687 | 1.86 | 1.93 | 9198 | 37946 | 100 |
| 100 | 2818 | 11608 | 1.78 | 1.87 | 9344 | 35911 | 100 |
| 99  | 2863 | 11601 | 1.79 | 1.83 | 9596 | 37022 | 100 |
| 100 | 2878 | 12218 | 1.80 | 1.94 | 9381 | 36283 | 100 |
| 100 | 2714 | 11481 | 1.76 | 1.80 | 9292 | 37061 | 100 |
| 100 | 2824 | 11668 | 1.77 | 1.79 | 9620 | 38123 | 100 |
| 100 | 2875 | 11583 | 1.85 | 1.88 | 9161 | 35907 | 100 |
| 100 | 2839 | 11675 | 1.81 | 1.80 | 9401 | 37553 | 100 |
| 100 | 2892 | 11790 | 1.85 | 1.85 | 9100 | 36883 | 100 |



|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2760 | 11164 | 1.78 | 1.75 | 9283 | 37333 | 100 |
| 100 | 3099 | 12335 | 1.91 | 1.88 | 9450 | 38140 | 100 |
| 100 | 2910 | 11786 | 1.84 | 1.86 | 9322 | 36673 | 100 |
| 100 | 2820 | 11706 | 1.79 | 1.85 | 9342 | 36577 | 100 |
| 100 | 3061 | 12215 | 1.91 | 1.88 | 9614 | 37708 | 100 |
| 99  | 2851 | 11311 | 1.83 | 1.81 | 9138 | 36139 | 100 |
| 99  | 2846 | 11813 | 1.81 | 1.82 | 9343 | 37548 | 100 |
| 99  | 2841 | 12069 | 1.75 | 1.89 | 9696 | 36769 | 100 |
| 98  | 3127 | 12114 | 1.90 | 1.89 | 9621 | 37450 | 100 |
| 98  | 3016 | 11747 | 1.90 | 1.84 | 9598 | 36980 | 100 |
| 98  | 2841 | 11741 | 1.75 | 1.82 | 9577 | 37696 | 100 |
| 98  | 3115 | 12114 | 1.96 | 1.88 | 9416 | 36994 | 100 |
| 99  | 2909 | 11968 | 1.81 | 1.85 | 9586 | 37309 | 100 |
| 99  | 2831 | 12712 | 1.79 | 1.92 | 9543 | 38028 | 100 |
| 97  | 3015 | 11593 | 1.85 | 1.79 | 9780 | 38423 | 100 |
| 99  | 2837 | 12406 | 1.87 | 1.91 | 9289 | 37270 | 100 |
| 97  | 2966 | 10890 | 1.80 | 1.74 | 9695 | 36887 | 100 |
| 96  | 3006 | 11832 | 1.89 | 1.80 | 9377 | 38006 | 100 |
| 99  | 2843 | 11235 | 1.79 | 1.77 | 9377 | 37660 | 100 |
| 100 | 3050 | 11270 | 1.89 | 1.75 | 9438 | 37711 | 100 |
| 98  | 2863 | 11152 | 1.84 | 1.74 | 9320 | 37739 | 100 |
| 97  | 2799 | 11602 | 1.73 | 1.84 | 9829 | 36410 | 100 |
| 99  | 2978 | 10776 | 1.82 | 1.74 | 9724 | 36902 | 100 |
| 99  | 2953 | 12032 | 1.84 | 1.86 | 9581 | 37519 | 100 |
| 100 | 2739 | 12675 | 1.78 | 1.89 | 9242 | 38318 | 100 |
| 100 | 2892 | 11753 | 1.85 | 1.85 | 9261 | 36761 | 100 |
| 99  | 2737 | 11844 | 1.73 | 1.82 | 9390 | 37582 | 100 |
| 99  | 2902 | 12722 | 1.84 | 1.94 | 9442 | 38179 | 100 |
| 100 | 2842 | 12533 | 1.79 | 1.94 | 9440 | 37764 | 100 |
| 99  | 2794 | 11862 | 1.81 | 1.86 | 9202 | 36887 | 100 |
| 99  | 2780 | 11696 | 1.77 | 1.83 | 9358 | 37187 | 100 |
| 100 | 2720 | 12220 | 1.72 | 1.87 | 9522 | 37617 | 100 |
| 98  | 3033 | 12229 | 1.84 | 1.87 | 9684 | 37628 | 100 |
| 100 | 2960 | 11699 | 1.87 | 1.81 | 9377 | 37954 | 100 |
| 100 | 3007 | 12067 | 1.90 | 1.88 | 9264 | 37178 | 100 |
| 98  | 3091 | 12168 | 1.88 | 1.85 | 9630 | 37991 | 100 |
| 100 | 2999 | 11097 | 1.83 | 1.76 | 9630 | 37040 | 100 |
| 99  | 3110 | 10672 | 1.85 | 1.74 | 9761 | 36056 | 100 |
| 100 | 2933 | 11847 | 1.83 | 1.83 | 9344 | 37772 | 100 |
| 98  | 2861 | 11652 | 1.79 | 1.83 | 9583 | 37121 | 100 |
| 99  | 3040 | 11815 | 1.90 | 1.84 | 9556 | 37571 | 100 |
| 99  | 2909 | 12468 | 1.84 | 1.89 | 9501 | 37836 | 100 |
| 99  | 2965 | 12036 | 1.87 | 1.86 | 9339 | 37561 | 100 |
| 100 | 2801 | 12157 | 1.77 | 1.85 | 9436 | 37928 | 100 |
| 99  | 3193 | 12208 | 1.94 | 1.89 | 9772 | 37587 | 100 |
| 100 | 2849 | 12424 | 1.82 | 1.90 | 9166 | 37543 | 100 |
| 100 | 2760 | 12251 | 1.73 | 1.87 | 9409 | 37610 | 100 |
| 97  | 2935 | 12360 | 1.83 | 1.88 | 9588 | 38360 | 100 |
| 98  | 3029 | 11494 | 1.89 | 1.82 | 9493 | 37149 | 100 |
| 99  | 2933 | 11544 | 1.82 | 1.77 | 9574 | 38432 | 100 |
| 100 | 2961 | 12255 | 1.83 | 1.89 | 9519 | 37239 | 100 |
| 100 | 2999 | 11376 | 1.85 | 1.81 | 9440 | 36996 | 100 |
| 99  | 2902 | 11587 | 1.80 | 1.79 | 9448 | 37986 | 100 |
| 99  | 2966 | 11140 | 1.82 | 1.76 | 9673 | 36958 | 100 |
| 98  | 2872 | 11894 | 1.85 | 1.82 | 9353 | 38191 | 100 |
| 99  | 2835 | 11437 | 1.76 | 1.80 | 9608 | 36584 | 100 |
| 99  | 2966 | 11526 | 1.83 | 1.83 | 9545 | 36718 | 100 |
| 100 | 2852 | 11376 | 1.81 | 1.84 | 9522 | 36226 | 100 |
| 100 | 2838 | 12285 | 1.74 | 1.90 | 9860 | 37378 | 100 |
| 99  | 2965 | 11081 | 1.82 | 1.78 | 9592 | 36849 | 100 |
| 100 | 3100 | 11337 | 1.93 | 1.79 | 9457 | 37277 | 100 |
| 99  | 2800 | 11830 | 1.80 | 1.84 | 9308 | 37228 | 100 |
| 99  | 3150 | 12508 | 1.92 | 1.87 | 9665 | 38765 | 100 |
| 99  | 2987 | 11545 | 1.91 | 1.84 | 9293 | 36741 | 100 |
| 99  | 2835 | 11858 | 1.81 | 1.82 | 9365 | 37995 | 100 |
| 97  | 2791 | 11624 | 1.79 | 1.82 | 9413 | 37290 | 100 |
| 98  | 3072 | 12742 | 1.87 | 1.94 | 9533 | 37636 | 100 |
| 98  | 3134 | 11828 | 1.91 | 1.86 | 9541 | 36860 | 100 |
| 98  | 3036 | 11147 | 1.85 | 1.80 | 9635 | 37096 | 100 |
| 98  | 2906 | 11501 | 1.79 | 1.83 | 9596 | 36507 | 100 |
| 100 | 3052 | 10951 | 1.83 | 1.73 | 9895 | 37266 | 100 |
| 100 | 3146 | 12085 | 1.92 | 1.88 | 9531 | 37195 | 100 |
| 99  | 2880 | 11325 | 1.82 | 1.81 | 9396 | 36544 | 100 |
| 100 | 2972 | 12027 | 1.84 | 1.84 | 9564 | 38005 | 100 |
| 100 | 2700 | 11778 | 1.75 | 1.87 | 9335 | 36906 | 100 |
| 100 | 3061 | 11432 | 1.89 | 1.80 | 9591 | 37115 | 100 |
| 100 | 2984 | 11701 | 1.85 | 1.80 | 9396 | 37623 | 100 |
| 98  | 2949 | 11451 | 1.83 | 1.77 | 9347 | 38056 | 100 |
| 99  | 3066 | 11610 | 1.91 | 1.80 | 9258 | 37483 | 100 |
| 98  | 2955 | 11173 | 1.84 | 1.77 | 9466 | 37158 | 100 |
| 99  | 2757 | 12293 | 1.71 | 1.87 | 9603 | 37799 | 100 |
| 98  | 2862 | 10715 | 1.78 | 1.73 | 9492 | 36885 | 100 |
| 100 | 2918 | 11931 | 1.82 | 1.84 | 9645 | 37507 | 100 |
| 100 | 2779 | 12236 | 1.76 | 1.92 | 9368 | 37431 | 100 |
| 100 | 2972 | 12180 | 1.87 | 1.87 | 9330 | 37725 | 100 |
| 100 | 2811 | 11582 | 1.74 | 1.82 | 9777 | 37062 | 100 |
| 99  | 3002 | 10905 | 1.87 | 1.73 | 9368 | 37657 | 100 |
| 100 | 2786 | 12189 | 1.73 | 1.89 | 9630 | 36922 | 100 |
| 100 | 3041 | 10986 | 1.93 | 1.75 | 9451 | 36530 | 100 |
| 99  | 2835 | 11954 | 1.78 | 1.86 | 9495 | 37157 | 100 |
| 99  | 2972 | 11915 | 1.86 | 1.84 | 9507 | 37484 | 100 |
| 98  | 2878 | 12257 | 1.83 | 1.83 | 9268 | 38822 | 100 |
| 100 | 2762 | 12143 | 1.76 | 1.88 | 9261 | 37595 | 100 |
| 100 | 2989 | 11573 | 1.89 | 1.84 | 9326 | 36763 | 100 |
| 98  | 2827 | 12166 | 1.73 | 1.90 | 9924 | 37185 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 2990 | 12398 | 1.85 | 1.90 | 9593 | 37257 | 100 |
|  | 100 | 2795 | 12189 | 1.74 | 1.87 | 9533 | 37919 | 100 |
|  | 99  | 2833 | 11076 | 1.77 | 1.76 | 9542 | 36809 | 100 |
|  | 98  | 2993 | 11475 | 1.86 | 1.78 | 9474 | 37855 | 100 |
|  | 100 | 2870 | 11812 | 1.83 | 1.82 | 9343 | 37762 | 100 |
|  | 100 | 2866 | 12518 | 1.79 | 1.90 | 9417 | 37713 | 100 |
|  | 99  | 2915 | 11281 | 1.79 | 1.80 | 9673 | 37081 | 100 |
|  | 99  | 2862 | 12593 | 1.78 | 1.93 | 9718 | 37583 | 100 |
|  | 100 | 2793 | 11968 | 1.78 | 1.87 | 9354 | 37055 | 100 |
|  | 100 | 2862 | 12341 | 1.86 | 1.89 | 9281 | 37901 | 100 |
|  | 100 | 2860 | 11629 | 1.79 | 1.80 | 9337 | 37781 | 100 |
|  | 98  | 3003 | 11595 | 1.85 | 1.81 | 9498 | 37956 | 100 |
|  | 99  | 2994 | 11918 | 1.86 | 1.86 | 9656 | 36964 | 100 |
|  | 98  | 3042 | 11067 | 1.89 | 1.78 | 9428 | 36525 | 100 |
|  | 98  | 2770 | 11243 | 1.74 | 1.79 | 9569 | 36707 | 100 |
|  | 98  | 2987 | 12032 | 1.86 | 1.90 | 9525 | 36527 | 100 |
|  | 99  | 2810 | 11234 | 1.80 | 1.76 | 9363 | 37681 | 100 |
|  | 100 | 2869 | 12631 | 1.78 | 1.92 | 9455 | 37799 | 100 |
|  | 98  | 3021 | 11360 | 1.86 | 1.79 | 9503 | 37617 | 100 |
|  | 98  | 3069 | 12248 | 1.91 | 1.90 | 9420 | 37170 | 100 |
|  | 100 | 2913 | 12889 | 1.83 | 1.94 | 9484 | 37871 | 100 |
|  | 98  | 3094 | 12427 | 1.87 | 1.93 | 9628 | 37088 | 100 |
|  | 98  | 3014 | 12614 | 1.87 | 1.96 | 9440 | 36855 | 100 |
|  | 96  | 3000 | 11210 | 1.86 | 1.80 | 9480 | 36644 | 100 |
|  | 99  | 3144 | 12175 | 1.92 | 1.89 | 9485 | 37232 | 100 |
|  | 99  | 2915 | 11046 | 1.83 | 1.75 | 9365 | 37267 | 100 |
|  | 100 | 2955 | 11807 | 1.85 | 1.84 | 9414 | 37586 | 100 |
|  | 100 | 2803 | 12155 | 1.79 | 1.88 | 9324 | 37976 | 100 |
|  | 98  | 2932 | 11645 | 1.85 | 1.83 | 9412 | 37672 | 100 |
|  | 99  | 2849 | 11716 | 1.83 | 1.80 | 9191 | 37281 | 100 |
|  | 100 | 2787 | 11559 | 1.79 | 1.78 | 9185 | 37866 | 100 |
|  | 100 | 3016 | 11932 | 1.92 | 1.83 | 9182 | 37968 | 100 |
|  | 100 | 3046 | 12039 | 1.90 | 1.86 | 9426 | 37629 | 100 |
|  | 100 | 2745 | 12116 | 1.75 | 1.90 | 9482 | 37263 | 100 |
|  | 98  | 3140 | 11824 | 1.94 | 1.82 | 9388 | 37380 | 100 |
|  | 99  | 2812 | 11564 | 1.81 | 1.82 | 9238 | 37720 | 100 |
|  | 100 | 3020 | 12235 | 1.85 | 1.89 | 9639 | 37454 | 100 |
|  | 99  | 3044 | 11747 | 1.82 | 1.85 | 9714 | 36823 | 100 |
|  | 99  | 2844 | 11587 | 1.80 | 1.83 | 9365 | 36775 | 100 |
|  | 100 | 2866 | 11507 | 1.78 | 1.79 | 9740 | 37477 | 100 |
|  | 99  | 2984 | 11260 | 1.88 | 1.80 | 9411 | 37013 | 100 |
|  | 98  | 2968 | 11782 | 1.83 | 1.83 | 9612 | 37403 | 100 |
|  | 100 | 2848 | 11272 | 1.77 | 1.82 | 9742 | 36102 | 100 |
|  | 100 | 2834 | 11722 | 1.78 | 1.81 | 9492 | 37551 | 100 |
|  | 99  | 3159 | 11416 | 1.92 | 1.83 | 9723 | 36130 | 100 |
|  | 97  | 2844 | 11216 | 1.78 | 1.78 | 9447 | 36954 | 100 |
|  | 99  | 2933 | 10982 | 1.83 | 1.78 | 9471 | 36099 | 100 |
|  | 97  | 2954 | 11427 | 1.80 | 1.78 | 9760 | 37553 | 100 |
|  | 100 | 3085 | 12401 | 1.92 | 1.93 | 9343 | 36886 | 100 |
|  | 100 | 2912 | 11689 | 1.79 | 1.87 | 9547 | 36159 | 100 |
|  | 99  | 3151 | 12172 | 1.88 | 1.87 | 9753 | 37336 | 100 |
|  | 100 | 2875 | 12518 | 1.80 | 1.93 | 9566 | 37111 | 100 |
|  | 100 | 2939 | 11232 | 1.86 | 1.76 | 9252 | 37361 | 100 |
|  | 99  | 2934 | 12039 | 1.80 | 1.84 | 9638 | 37771 | 100 |
|  | 99  | 3145 | 11925 | 1.96 | 1.86 | 9514 | 37158 | 100 |
|  | 99  | 2810 | 10835 | 1.80 | 1.75 | 9704 | 36554 | 100 |
|  | 96  | 3006 | 11758 | 1.87 | 1.85 | 9505 | 36582 | 100 |
|  | 98  | 2838 | 11796 | 1.83 | 1.83 | 9307 | 37300 | 100 |
|  | 100 | 2933 | 12509 | 1.82 | 1.94 | 9305 | 37440 | 100 |
|  | 99  | 2858 | 11172 | 1.79 | 1.78 | 9565 | 37326 | 100 |
|  | 98  | 2915 | 12620 | 1.82 | 1.92 | 9646 | 38024 | 100 |
|  | 99  | 2874 | 11923 | 1.78 | 1.86 | 9670 | 36799 | 100 |
|  | 99  | 3037 | 11437 | 1.81 | 1.82 | 9749 | 36730 | 100 |
|  | 99  | 2862 | 11486 | 1.84 | 1.85 | 9205 | 36283 | 100 |
|  | 100 | 2807 | 11225 | 1.79 | 1.76 | 9259 | 37079 | 100 |
|  | 99  | 2815 | 11878 | 1.79 | 1.87 | 9524 | 36757 | 100 |
|  | 100 | 2972 | 11540 | 1.85 | 1.80 | 9476 | 37411 | 100 |
|  | 100 | 3009 | 12645 | 1.85 | 1.93 | 9687 | 37779 | 100 |
|  | 100 | 2788 | 12371 | 1.81 | 1.86 | 9090 | 38543 | 100 |
|  | 99  | 2876 | 11579 | 1.79 | 1.81 | 9425 | 37102 | 100 |
|  | 100 | 2933 | 12059 | 1.82 | 1.84 | 9337 | 38553 | 100 |
|  | 100 | 3091 | 11448 | 1.88 | 1.81 | 9592 | 36756 | 100 |
|  | 99  | 3081 | 10912 | 1.92 | 1.72 | 9346 | 37109 | 100 |
|  | 96  | 2848 | 10388 | 1.74 | 1.68 | 9607 | 37002 | 100 |
|  | 99  | 2992 | 11566 | 1.87 | 1.79 | 9461 | 37794 | 100 |
|  | 98  | 3102 | 12117 | 1.86 | 1.85 | 9639 | 37958 | 100 |
|  | 99  | 2980 | 11175 | 1.85 | 1.77 | 9590 | 37242 | 100 |
|  | 100 | 2966 | 11338 | 1.85 | 1.80 | 9531 | 36835 | 100 |
|  | 99  | 3076 | 11812 | 1.91 | 1.79 | 9515 | 38085 | 100 |
|  | 100 | 2958 | 11819 | 1.83 | 1.84 | 9500 | 37342 | 100 |
|  | 100 | 2925 | 11780 | 1.80 | 1.79 | 9559 | 37882 | 100 |
|  | 100 | 2566 | 12264 | 1.71 | 1.90 | 9104 | 37745 | 100 |
|  | 100 | 2865 | 11996 | 1.77 | 1.82 | 9625 | 38200 | 100 |
|  | 100 | 2867 | 11612 | 1.80 | 1.78 | 9404 | 38167 | 100 |
|  | 99  | 3048 | 12200 | 1.86 | 1.90 | 9647 | 37178 | 100 |
|  | 100 | 2793 | 11978 | 1.76 | 1.83 | 9440 | 37791 | 100 |
|  | 100 | 2642 | 12040 | 1.71 | 1.86 | 9247 | 37112 | 100 |
|  | 98  | 2852 | 11573 | 1.81 | 1.82 | 9406 | 36990 | 100 |
|  | 100 | 2873 | 12318 | 1.79 | 1.90 | 9467 | 37491 | 100 |
|  | 97  | 3029 | 11660 | 1.83 | 1.82 | 9877 | 37510 | 100 |
|  | 99  | 2950 | 11290 | 1.86 | 1.79 | 9297 | 37043 | 100 |
|  | 100 | 2760 | 11731 | 1.74 | 1.85 | 9519 | 37068 | 100 |
|  | 100 | 2950 | 11495 | 1.84 | 1.80 | 9592 | 37222 | 100 |
|  | 99  | 2947 | 11379 | 1.85 | 1.78 | 9454 | 37263 | 100 |
|  | 98  | 2908 | 11473 | 1.80 | 1.80 | 9517 | 37598 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 98  | 3034 | 11423 | 1.88 | 1.83 | 9606 | 36502 |  | 100 |
|  | 100 | 2750 | 11772 | 1.76 | 1.84 | 9250 | 36934 |  | 100 |
|  | 100 | 2965 | 11465 | 1.80 | 1.79 | 9772 | 37584 |  | 100 |
|  | 100 | 2815 | 11498 | 1.78 | 1.82 | 9321 | 36793 |  | 100 |
|  | 100 | 2963 | 11969 | 1.86 | 1.84 | 9488 | 37968 |  | 100 |
|  | 100 | 3102 | 11519 | 1.96 | 1.80 | 9396 | 37453 |  | 100 |
|  | 99  | 2849 | 12050 | 1.82 | 1.85 | 9242 | 37797 |  | 100 |
|  | 100 | 2822 | 11805 | 1.79 | 1.80 | 9441 | 38154 |  | 100 |
|  | 99  | 2961 | 11664 | 1.80 | 1.83 | 9796 | 36976 |  | 100 |
|  | 99  | 2968 | 12272 | 1.82 | 1.86 | 9612 | 37878 |  | 100 |
|  | 100 | 2697 | 11075 | 1.73 | 1.79 | 9232 | 36343 |  | 100 |
|  | 99  | 2677 | 12089 | 1.75 | 1.83 | 9129 | 38290 |  | 100 |
|  | 100 | 2698 | 12822 | 1.76 | 1.90 | 9099 | 38872 |  | 100 |
|  | 100 | 3179 | 12320 | 1.95 | 1.90 | 9452 | 37406 |  | 100 |
|  | 96  | 3012 | 11488 | 1.89 | 1.80 | 9450 | 37151 |  | 100 |
|  | 99  | 2913 | 12368 | 1.77 | 1.89 | 9881 | 37487 |  | 100 |
|  | 100 | 2875 | 11720 | 1.85 | 1.80 | 9236 | 38150 |  | 100 |
|  | 99  | 3001 | 11620 | 1.85 | 1.80 | 9490 | 37349 |  | 100 |
|  | 100 | 2966 | 12033 | 1.85 | 1.83 | 9475 | 38233 |  | 100 |
|  | 97  | 3012 | 12256 | 1.84 | 1.84 | 9681 | 38486 |  | 100 |
|  | 100 | 2736 | 12357 | 1.80 | 1.91 | 9160 | 37371 |  | 100 |
|  | 98  | 2623 | 12287 | 1.70 | 1.87 | 9185 | 38032 |  | 100 |
|  | 100 | 2617 | 12326 | 1.72 | 1.86 | 9162 | 38822 |  | 100 |
|  | 100 | 3116 | 12633 | 1.95 | 1.94 | 9523 | 37663 |  | 100 |
|  | 100 | 2841 | 12352 | 1.82 | 1.87 | 9354 | 37927 |  | 100 |
|  | 100 | 2894 | 11853 | 1.89 | 1.84 | 9165 | 37306 |  | 100 |
|  | 99  | 2987 | 12195 | 1.85 | 1.88 | 9546 | 37348 |  | 100 |
|  | 100 | 2727 | 11999 | 1.71 | 1.85 | 9621 | 37488 |  | 100 |
|  | 100 | 2819 | 11415 | 1.77 | 1.82 | 9563 | 36511 |  | 100 |
|  | 100 | 2775 | 11957 | 1.75 | 1.84 | 9514 | 37402 |  | 100 |
|  | 99  | 2750 | 12239 | 1.73 | 1.89 | 9720 | 37167 |  | 100 |
|  | 99  | 2992 | 11992 | 1.86 | 1.89 | 9549 | 36423 |  | 100 |
|  | 99  | 3065 | 12224 | 1.91 | 1.88 | 9280 | 37575 |  | 100 |
|  | 99  | 3223 | 11032 | 1.92 | 1.77 | 9731 | 37038 |  | 100 |
|  | 98  | 2986 | 11727 | 1.85 | 1.83 | 9481 | 37400 |  | 100 |
|  | 98  | 2901 | 11375 | 1.84 | 1.81 | 9276 | 36152 |  | 100 |
|  | 100 | 2880 | 11990 | 1.85 | 1.82 | 9161 | 37713 |  | 100 |
|  | 98  | 2935 | 11418 | 1.85 | 1.83 | 9326 | 36923 |  | 100 |
|  | 98  | 2931 | 12137 | 1.85 | 1.83 | 9315 | 38560 |  | 100 |
|  | 99  | 2900 | 11714 | 1.83 | 1.84 | 9348 | 37486 |  | 100 |
|  | 98  | 2918 | 11875 | 1.82 | 1.82 | 9537 | 38323 |  | 100 |
|  | 99  | 2853 | 11940 | 1.85 | 1.79 | 9170 | 38517 |  | 100 |
|  | 100 | 2775 | 11788 | 1.79 | 1.82 | 9260 | 37615 |  | 100 |
|  | 99  | 2982 | 12352 | 1.83 | 1.93 | 9660 | 37006 |  | 100 |
|  | 97  | 3005 | 12047 | 1.86 | 1.88 | 9576 | 36753 |  | 100 |
|  | 98  | 2996 | 12787 | 1.89 | 1.95 | 9403 | 37482 |  | 100 |
|  | 100 | 2720 | 11518 | 1.74 | 1.81 | 9341 | 36716 |  | 100 |
|  | 99  | 2945 | 12249 | 1.78 | 1.88 | 9787 | 37594 |  | 100 |
|  | 99  | 3058 | 12160 | 1.88 | 1.88 | 9356 | 36858 |  | 100 |
|  | 98  | 2898 | 11463 | 1.83 | 1.75 | 9241 | 38683 |  | 100 |
|  | 100 | 3043 | 11560 | 1.88 | 1.86 | 9834 | 36387 |  | 100 |
|  | 99  | 2798 | 12523 | 1.78 | 1.91 | 9399 | 37975 |  | 100 |
|  | 99  | 2918 | 11883 | 1.84 | 1.84 | 9423 | 37483 |  | 100 |
|  | 100 | 3013 | 11789 | 1.87 | 1.90 | 9610 | 35572 |  | 100 |
|  | 100 | 2935 | 12913 | 1.77 | 1.95 | 9787 | 37504 |  | 100 |
|  | 100 | 2749 | 12127 | 1.77 | 1.92 | 9409 | 36329 |  | 100 |
|  | 100 | 2792 | 11633 | 1.80 | 1.83 | 9200 | 37116 |  | 100 |
|  | 99  | 2817 | 11956 | 1.77 | 1.85 | 9453 | 38163 |  | 100 |
|  | 100 | 2921 | 11199 | 1.85 | 1.77 | 9274 | 37445 |  | 100 |
|  | 100 | 2873 | 12191 | 1.85 | 1.88 | 9200 | 37269 |  | 100 |
|  | 99  | 3033 | 12186 | 1.87 | 1.88 | 9551 | 37359 |  | 100 |
|  | 100 | 2759 | 12020 | 1.75 | 1.84 | 9311 | 37550 |  | 100 |
|  | 98  | 2894 | 12038 | 1.81 | 1.88 | 9481 | 37835 |  | 100 |
|  | 100 | 2876 | 12154 | 1.80 | 1.87 | 9401 | 37489 |  | 100 |
|  | 100 | 2997 | 11667 | 1.90 | 1.83 | 9286 | 37139 |  | 100 |
|  | 100 | 2784 | 11812 | 1.77 | 1.84 | 9302 | 37503 |  | 100 |
|  | 96  | 3114 | 11624 | 1.91 | 1.85 | 9402 | 36930 |  | 100 |
|  | 100 | 2860 | 11964 | 1.78 | 1.87 | 9602 | 37647 |  | 100 |
|  | 100 | 2912 | 11541 | 1.84 | 1.81 | 9237 | 36883 |  | 100 |
|  | 100 | 2909 | 12269 | 1.78 | 1.89 | 9685 | 37160 |  | 100 |
|  | 100 | 2690 | 11623 | 1.78 | 1.82 | 9169 | 36832 |  | 100 |
|  | 100 | 2742 | 11987 | 1.75 | 1.86 | 9435 | 37238 |  | 100 |
|  | 100 | 3008 | 11992 | 1.83 | 1.86 | 9786 | 37270 |  | 100 |
|  | 100 | 2868 | 11927 | 1.83 | 1.84 | 9279 | 37331 |  | 100 |
|  | 100 | 2810 | 11878 | 1.78 | 1.85 | 9370 | 37208 |  | 100 |
|  | 99  | 2972 | 12166 | 1.81 | 1.87 | 9598 | 37621 |  | 100 |
|  | 99  | 2951 | 11663 | 1.85 | 1.83 | 9348 | 37378 |  | 100 |
|  | 100 | 2999 | 12029 | 1.88 | 1.85 | 9305 | 37317 |  | 100 |
|  | 100 | 2942 | 11952 | 1.87 | 1.86 | 9166 | 37728 |  | 100 |
|  | 99  | 3000 | 12327 | 1.86 | 1.87 | 9466 | 38113 |  | 100 |
|  | 100 | 3060 | 12352 | 1.88 | 1.88 | 9569 | 37669 |  | 100 |
|  | 100 | 3168 | 11952 | 1.97 | 1.91 | 9480 | 36450 |  | 100 |
|  | 99  | 2879 | 11584 | 1.83 | 1.83 | 9277 | 36710 |  | 100 |
|  | 99  | 2975 | 11826 | 1.85 | 1.83 | 9671 | 37240 |  | 100 |
|  | 100 | 2760 | 11920 | 1.81 | 1.87 | 9121 | 36715 |  | 100 |
|  | 100 | 2797 | 11926 | 1.74 | 1.82 | 9685 | 38074 |  | 100 |
|  | 100 | 2771 | 11725 | 1.85 | 1.82 | 8941 | 37606 |  | 100 |
|  | 99  | 2980 | 11549 | 1.89 | 1.78 | 9307 | 37804 |  | 100 |
|  | 100 | 2883 | 11592 | 1.86 | 1.82 | 9228 | 37623 |  | 100 |
|  | 99  | 3227 | 12030 | 1.93 | 1.86 | 9600 | 37177 |  | 100 |
|  | 100 | 2834 | 11404 | 1.81 | 1.79 | 9277 | 37416 |  | 100 |
|  | 98  | 3110 | 11929 | 1.91 | 1.86 | 9457 | 37432 |  | 100 |
|  | 100 | 2962 | 11705 | 1.84 | 1.82 | 9388 | 37308 |  | 100 |
|  | 100 | 2631 | 12093 | 1.73 | 1.84 | 9192 | 38158 |  | 100 |
|  | 99  | 3000 | 11413 | 1.82 | 1.79 | 9732 | 37485 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2848 | 12066 | 1.74 | 1.86 | 9748 | 37386 |  | 100 |
|  | 100 | 2868 | 11493 | 1.78 | 1.81 | 9642 | 37272 |  | 100 |
|  | 99  | 2824 | 11241 | 1.80 | 1.80 | 9547 | 36505 |  | 100 |
|  | 99  | 2921 | 11549 | 1.85 | 1.85 | 9315 | 36652 |  | 100 |
|  | 100 | 2784 | 12386 | 1.74 | 1.85 | 9513 | 38578 |  | 100 |
|  | 100 | 2908 | 12260 | 1.82 | 1.90 | 9468 | 36920 |  | 100 |
|  | 100 | 3112 | 11628 | 1.92 | 1.80 | 9430 | 37560 |  | 100 |
|  | 98  | 2815 | 11332 | 1.76 | 1.80 | 9576 | 37006 |  | 100 |
|  | 99  | 2843 | 11912 | 1.81 | 1.83 | 9174 | 37598 |  | 100 |
|  | 100 | 2921 | 11723 | 1.81 | 1.84 | 9526 | 36805 |  | 100 |
|  | 100 | 2909 | 10750 | 1.82 | 1.73 | 9509 | 36554 |  | 100 |
|  | 100 | 2768 | 11623 | 1.74 | 1.83 | 9559 | 36833 |  | 100 |
|  | 99  | 2904 | 11467 | 1.83 | 1.80 | 9501 | 37565 |  | 100 |
|  | 99  | 2901 | 11430 | 1.78 | 1.77 | 9704 | 38179 |  | 100 |
|  | 99  | 2963 | 11448 | 1.83 | 1.83 | 9602 | 36787 |  | 100 |
|  | 99  | 2776 | 11919 | 1.78 | 1.80 | 9537 | 38420 |  | 100 |
|  | 99  | 2769 | 12152 | 1.78 | 1.92 | 9300 | 36519 |  | 100 |
|  | 100 | 2819 | 12378 | 1.77 | 1.87 | 9446 | 37811 |  | 100 |
|  | 99  | 2825 | 11531 | 1.79 | 1.81 | 9492 | 37244 |  | 100 |
|  | 99  | 2868 | 11975 | 1.79 | 1.80 | 9496 | 38825 |  | 100 |
|  | 100 | 2877 | 11255 | 1.88 | 1.74 | 9061 | 37502 |  | 100 |
|  | 100 | 2715 | 11974 | 1.77 | 1.87 | 9202 | 37454 |  | 100 |
|  | 100 | 2904 | 11819 | 1.80 | 1.84 | 9673 | 37591 |  | 100 |
|  | 99  | 2777 | 12177 | 1.76 | 1.84 | 9452 | 38426 |  | 100 |
|  | 100 | 2690 | 12227 | 1.77 | 1.90 | 9218 | 37441 |  | 100 |
|  | 99  | 2897 | 11605 | 1.77 | 1.80 | 9718 | 37689 |  | 100 |
|  | 99  | 2752 | 11992 | 1.71 | 1.86 | 9686 | 37319 |  | 100 |
|  | 100 | 2976 | 11584 | 1.86 | 1.81 | 9527 | 37306 |  | 100 |
|  | 100 | 2815 | 12126 | 1.75 | 1.90 | 9702 | 37915 |  | 100 |
|  | 100 | 2864 | 12054 | 1.78 | 1.82 | 9657 | 38492 |  | 100 |
|  | 100 | 2936 | 12431 | 1.89 | 1.95 | 9126 | 36580 |  | 100 |
|  | 100 | 2815 | 12361 | 1.80 | 1.86 | 9377 | 38445 |  | 100 |
|  | 99  | 2883 | 11203 | 1.88 | 1.81 | 9105 | 36096 |  | 100 |
|  | 100 | 2887 | 12432 | 1.81 | 1.90 | 9393 | 37636 |  | 100 |
|  | 100 | 2828 | 11535 | 1.79 | 1.84 | 9341 | 36480 |  | 100 |
|  | 100 | 3077 | 12821 | 1.86 | 1.93 | 9722 | 38238 |  | 100 |
|  | 99  | 2840 | 11128 | 1.79 | 1.73 | 9339 | 38331 |  | 100 |
|  | 99  | 2893 | 11978 | 1.85 | 1.91 | 9251 | 36853 |  | 100 |
|  | 99  | 3099 | 11338 | 1.90 | 1.73 | 9584 | 38347 |  | 100 |
|  | 99  | 2845 | 11713 | 1.85 | 1.79 | 9202 | 38077 |  | 100 |
|  | 100 | 2862 | 11805 | 1.84 | 1.82 | 9250 | 37810 |  | 100 |
|  | 99  | 2760 | 11620 | 1.76 | 1.81 | 9240 | 37501 |  | 100 |
|  | 99  | 2916 | 12448 | 1.82 | 1.87 | 9341 | 38040 |  | 100 |
|  | 99  | 3036 | 11752 | 1.88 | 1.81 | 9492 | 37943 |  | 100 |
|  | 99  | 2924 | 12002 | 1.78 | 1.84 | 9834 | 37777 |  | 100 |
|  | 100 | 2799 | 11883 | 1.76 | 1.80 | 9516 | 37915 |  | 100 |
|  | 100 | 2991 | 12400 | 1.87 | 1.87 | 9323 | 37575 |  | 100 |
|  | 100 | 2753 | 11806 | 1.74 | 1.81 | 9453 | 37641 |  | 100 |
|  | 98  | 2897 | 12023 | 1.84 | 1.88 | 9240 | 37458 |  | 100 |
|  | 100 | 3045 | 11828 | 1.88 | 1.83 | 9534 | 37298 |  | 100 |
|  | 100 | 3025 | 12226 | 1.93 | 1.82 | 9170 | 38527 |  | 100 |
|  | 100 | 2961 | 11965 | 1.83 | 1.87 | 9544 | 37288 |  | 100 |
|  | 100 | 2897 | 11943 | 1.77 | 1.82 | 9758 | 37951 |  | 100 |
|  | 98  | 2796 | 11280 | 1.74 | 1.81 | 9673 | 36658 |  | 100 |
|  | 98  | 2848 | 11766 | 1.80 | 1.87 | 9330 | 37078 |  | 100 |
|  | 99  | 2956 | 11557 | 1.81 | 1.81 | 9609 | 37489 |  | 100 |
|  | 100 | 3006 | 12065 | 1.94 | 1.85 | 9425 | 37433 |  | 100 |
|  | 100 | 2962 | 11708 | 1.81 | 1.76 | 9762 | 38925 |  | 100 |
|  | 100 | 3089 | 11356 | 1.88 | 1.82 | 9667 | 36815 |  | 100 |
|  | 100 | 3056 | 12314 | 1.88 | 1.90 | 9505 | 37718 |  | 100 |
|  | 99  | 3005 | 11493 | 1.87 | 1.77 | 9521 | 37845 |  | 100 |
|  | 99  | 3017 | 12136 | 1.88 | 1.86 | 9375 | 38260 |  | 100 |
|  | 100 | 3123 | 11491 | 1.94 | 1.81 | 9409 | 37192 |  | 100 |
|  | 99  | 2741 | 10963 | 1.76 | 1.72 | 9333 | 37797 |  | 100 |
|  | 100 | 2873 | 12000 | 1.84 | 1.85 | 9402 | 37467 |  | 100 |
|  | 99  | 3183 | 11501 | 1.92 | 1.83 | 9874 | 37016 |  | 100 |
|  | 100 | 2991 | 11684 | 1.82 | 1.81 | 9664 | 38093 |  | 100 |
|  | 98  | 2999 | 11190 | 1.87 | 1.80 | 9453 | 36164 |  | 100 |
|  | 100 | 2728 | 11012 | 1.74 | 1.74 | 9361 | 37063 |  | 100 |
|  | 97  | 3014 | 12439 | 1.87 | 1.94 | 9569 | 37214 |  | 100 |
|  | 100 | 2970 | 11493 | 1.84 | 1.83 | 9497 | 36687 |  | 100 |
|  | 100 | 2936 | 11756 | 1.85 | 1.84 | 9583 | 37511 |  | 100 |
|  | 100 | 2792 | 11746 | 1.79 | 1.84 | 9393 | 36696 |  | 100 |
|  | 100 | 2840 | 12175 | 1.78 | 1.84 | 9565 | 38509 |  | 100 |
|  | 99  | 3035 | 11214 | 1.94 | 1.80 | 9108 | 36486 |  | 100 |
|  | 98  | 3028 | 11666 | 1.87 | 1.82 | 9569 | 37060 |  | 100 |
|  | 99  | 2881 | 11586 | 1.80 | 1.80 | 9388 | 37600 |  | 100 |
|  | 100 | 3062 | 12007 | 1.93 | 1.87 | 9260 | 36840 |  | 100 |
|  | 98  | 2872 | 12378 | 1.84 | 1.84 | 9310 | 38774 |  | 100 |
|  | 100 | 2923 | 11358 | 1.88 | 1.76 | 9414 | 37428 |  | 100 |
|  | 100 | 2949 | 12121 | 1.87 | 1.84 | 9308 | 38212 |  | 100 |
|  | 100 | 2734 | 12609 | 1.75 | 1.88 | 9345 | 37773 |  | 100 |
|  | 99  | 2612 | 11521 | 1.73 | 1.82 | 9051 | 37012 |  | 100 |
|  | 100 | 2961 | 12432 | 1.93 | 1.88 | 8999 | 38152 |  | 100 |
|  | 100 | 2848 | 11912 | 1.86 | 1.85 | 9277 | 37332 |  | 100 |
|  | 100 | 2790 | 11912 | 1.79 | 1.83 | 9310 | 37647 |  | 100 |
|  | 97  | 3062 | 11368 | 1.88 | 1.77 | 9454 | 37306 |  | 100 |
|  | 99  | 3004 | 12191 | 1.83 | 1.85 | 9606 | 38015 |  | 100 |
|  | 100 | 2829 | 11620 | 1.83 | 1.81 | 9197 | 37252 |  | 100 |
|  | 100 | 2878 | 11411 | 1.81 | 1.78 | 9499 | 37907 |  | 100 |
|  | 100 | 2867 | 11854 | 1.87 | 1.84 | 9070 | 37322 |  | 100 |
|  | 100 | 2877 | 12477 | 1.77 | 1.88 | 9735 | 38161 |  | 100 |
|  | 98  | 3059 | 11721 | 1.87 | 1.86 | 9629 | 36456 |  | 100 |
|  | 99  | 3114 | 11274 | 1.89 | 1.83 | 9632 | 35571 |  | 100 |
|  | 100 | 2977 | 11699 | 1.83 | 1.85 | 9759 | 37035 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 2814 | 12174 | 1.74 | 1.88 | 9717 | 37206 | 100 |
|  | 100 | 2902 | 12107 | 1.80 | 1.87 | 9604 | 37345 | 100 |
|  | 99  | 2836 | 12017 | 1.81 | 1.85 | 9275 | 37835 | 100 |
|  | 100 | 3139 | 12166 | 1.89 | 1.86 | 9682 | 37767 | 100 |
|  | 100 | 3018 | 12167 | 1.87 | 1.89 | 9346 | 36724 | 100 |
|  | 99  | 2971 | 11251 | 1.85 | 1.77 | 9542 | 37319 | 100 |
|  | 100 | 2833 | 11823 | 1.77 | 1.83 | 9458 | 37574 | 100 |
|  | 100 | 2738 | 12059 | 1.74 | 1.88 | 9474 | 36912 | 100 |
|  | 99  | 2752 | 12154 | 1.76 | 1.87 | 9551 | 37634 | 100 |
|  | 100 | 2800 | 12212 | 1.77 | 1.88 | 9324 | 37775 | 100 |
|  | 99  | 2975 | 11869 | 1.82 | 1.87 | 9623 | 36392 | 100 |
|  | 100 | 2908 | 11941 | 1.86 | 1.86 | 9278 | 37560 | 100 |
|  | 99  | 2961 | 12165 | 1.83 | 1.90 | 9510 | 37194 | 100 |
|  | 99  | 2911 | 12052 | 1.82 | 1.87 | 9496 | 37230 | 100 |
|  | 98  | 2944 | 11357 | 1.82 | 1.77 | 9547 | 37553 | 100 |
|  | 100 | 3083 | 11961 | 1.93 | 1.83 | 9363 | 37715 | 100 |
|  | 100 | 3034 | 11788 | 1.85 | 1.81 | 9796 | 37902 | 100 |
|  | 99  | 2808 | 11722 | 1.81 | 1.82 | 9211 | 37769 | 100 |
|  | 100 | 2907 | 11498 | 1.82 | 1.81 | 9409 | 37096 | 100 |
|  | 100 | 2886 | 12477 | 1.79 | 1.89 | 9568 | 38070 | 100 |
|  | 100 | 2834 | 11693 | 1.81 | 1.80 | 9237 | 37699 | 100 |
|  | 98  | 2921 | 11189 | 1.83 | 1.77 | 9478 | 37111 | 100 |
|  | 100 | 2881 | 12027 | 1.84 | 1.84 | 9225 | 37812 | 100 |
|  | 100 | 2913 | 12009 | 1.81 | 1.88 | 9682 | 37384 | 100 |
|  | 99  | 2963 | 11374 | 1.84 | 1.84 | 9277 | 36281 | 100 |
|  | 100 | 2787 | 11672 | 1.78 | 1.83 | 9453 | 36806 | 100 |
|  | 100 | 2989 | 12132 | 1.84 | 1.88 | 9676 | 37097 | 100 |
|  | 99  | 2879 | 11684 | 1.85 | 1.82 | 9167 | 37242 | 100 |
|  | 100 | 2945 | 11827 | 1.81 | 1.82 | 9486 | 37738 | 100 |
|  | 97  | 3038 | 11698 | 1.88 | 1.84 | 9569 | 36906 | 100 |
|  | 100 | 2845 | 11878 | 1.81 | 1.84 | 9328 | 37393 | 100 |
|  | 100 | 3064 | 12736 | 1.87 | 1.93 | 9482 | 37980 | 100 |
|  | 100 | 3021 | 11688 | 1.88 | 1.82 | 9387 | 37524 | 100 |
|  | 99  | 2812 | 12486 | 1.81 | 1.87 | 9074 | 38048 | 100 |
|  | 100 | 3145 | 12103 | 1.93 | 1.87 | 9451 | 37369 | 100 |
|  | 100 | 2773 | 12347 | 1.75 | 1.86 | 9521 | 38046 | 100 |
|  | 100 | 2872 | 12159 | 1.80 | 1.86 | 9524 | 37749 | 100 |
|  | 100 | 2782 | 12093 | 1.75 | 1.84 | 9517 | 37996 | 100 |
|  | 100 | 2930 | 11536 | 1.84 | 1.80 | 9436 | 37798 | 100 |
|  | 98  | 3001 | 11818 | 1.87 | 1.84 | 9496 | 37629 | 100 |
|  | 100 | 2796 | 11667 | 1.77 | 1.78 | 9315 | 38094 | 100 |
|  | 99  | 2850 | 11784 | 1.79 | 1.84 | 9587 | 37107 | 100 |
|  | 99  | 2770 | 11863 | 1.78 | 1.84 | 9291 | 38181 | 100 |
|  | 100 | 2865 | 11800 | 1.84 | 1.82 | 9167 | 37671 | 100 |
|  | 100 | 2969 | 11803 | 1.84 | 1.84 | 9443 | 37124 | 100 |
|  | 100 | 2777 | 12068 | 1.76 | 1.88 | 9426 | 37375 | 100 |
|  | 100 | 2781 | 11971 | 1.76 | 1.83 | 9472 | 37785 | 100 |
|  | 100 | 2974 | 11937 | 1.85 | 1.83 | 9523 | 37722 | 100 |
|  | 99  | 2932 | 12098 | 1.84 | 1.83 | 9454 | 38423 | 100 |
|  | 99  | 2825 | 11580 | 1.80 | 1.78 | 9498 | 38123 | 100 |
|  | 100 | 2836 | 11946 | 1.78 | 1.83 | 9518 | 37917 | 100 |
|  | 100 | 2785 | 11836 | 1.77 | 1.84 | 9634 | 37376 | 100 |
|  | 100 | 3031 | 11808 | 1.89 | 1.83 | 9545 | 37724 | 100 |
|  | 99  | 2896 | 11713 | 1.85 | 1.77 | 9251 | 38509 | 100 |
|  | 100 | 3005 | 11978 | 1.89 | 1.83 | 9278 | 37787 | 100 |
|  | 99  | 2937 | 11678 | 1.79 | 1.82 | 9703 | 37161 | 100 |
|  | 100 | 2747 | 11712 | 1.74 | 1.84 | 9440 | 37380 | 100 |
|  | 100 | 3046 | 11826 | 1.88 | 1.82 | 9500 | 37732 | 100 |
|  | 100 | 2815 | 11772 | 1.82 | 1.80 | 9161 | 37963 | 100 |
|  | 100 | 2772 | 11550 | 1.77 | 1.78 | 9647 | 37934 | 100 |
|  | 100 | 2928 | 12045 | 1.84 | 1.88 | 9570 | 37296 | 100 |
|  | 99  | 2853 | 11637 | 1.80 | 1.79 | 9423 | 37625 | 100 |
|  | 100 | 2906 | 12302 | 1.81 | 1.90 | 9351 | 37916 | 100 |
|  | 99  | 2919 | 12085 | 1.84 | 1.85 | 9519 | 37534 | 100 |
|  | 99  | 2991 | 11428 | 1.87 | 1.80 | 9579 | 36764 | 100 |
|  | 99  | 2752 | 11944 | 1.76 | 1.87 | 9371 | 37155 | 100 |
|  | 99  | 2874 | 12567 | 1.81 | 1.91 | 9442 | 38029 | 100 |
|  | 100 | 2914 | 11728 | 1.90 | 1.81 | 9301 | 37393 | 100 |
|  | 99  | 2826 | 12355 | 1.79 | 1.89 | 9632 | 38072 | 100 |
|  | 98  | 2957 | 11617 | 1.86 | 1.83 | 9418 | 37575 | 100 |
|  | 99  | 2946 | 12019 | 1.85 | 1.83 | 9363 | 37739 | 100 |
|  | 100 | 2919 | 11838 | 1.85 | 1.82 | 9306 | 37728 | 100 |
|  | 100 | 2784 | 11431 | 1.75 | 1.79 | 9569 | 37628 | 100 |
|  | 100 | 3028 | 11999 | 1.86 | 1.85 | 9621 | 37193 | 100 |
|  | 100 | 2682 | 11559 | 1.75 | 1.81 | 9245 | 37398 | 100 |
|  | 99  | 3014 | 11098 | 1.86 | 1.77 | 9446 | 37083 | 100 |
|  | 100 | 2845 | 11577 | 1.78 | 1.79 | 9399 | 37740 | 100 |
|  | 100 | 2895 | 11792 | 1.80 | 1.82 | 9534 | 37241 | 100 |
|  | 99  | 3021 | 11575 | 1.87 | 1.80 | 9687 | 37304 | 100 |
|  | 100 | 2903 | 12356 | 1.78 | 1.91 | 9502 | 37149 | 100 |
|  | 99  | 2880 | 11863 | 1.78 | 1.84 | 9697 | 37386 | 100 |
|  | 100 | 2748 | 12480 | 1.76 | 1.88 | 9348 | 37806 | 100 |
|  | 99  | 2780 | 12048 | 1.81 | 1.85 | 9131 | 37522 | 100 |
|  | 100 | 3024 | 11695 | 1.86 | 1.80 | 9573 | 37401 | 100 |
|  | 99  | 2950 | 12208 | 1.81 | 1.89 | 9600 | 37132 | 100 |
|  | 99  | 2930 | 11351 | 1.83 | 1.77 | 9538 | 37729 | 100 |
|  | 99  | 2930 | 10893 | 1.87 | 1.74 | 9502 | 36923 | 100 |
|  | 100 | 2978 | 11202 | 1.86 | 1.77 | 9371 | 36984 | 100 |
|  | 99  | 2885 | 12158 | 1.84 | 1.86 | 9205 | 38194 | 100 |
|  | 100 | 2912 | 11372 | 1.80 | 1.81 | 9613 | 36556 | 100 |
|  | 100 | 2807 | 11683 | 1.78 | 1.82 | 9458 | 37606 | 100 |
|  | 100 | 2957 | 12425 | 1.85 | 1.89 | 9346 | 37701 | 100 |
|  | 100 | 3001 | 12417 | 1.87 | 1.89 | 9410 | 37951 | 100 |
|  | 99  | 3037 | 11999 | 1.87 | 1.87 | 9483 | 37728 | 100 |
|  | 100 | 2989 | 11834 | 1.87 | 1.81 | 9405 | 38301 | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2922 | 11794 | 1.81 | 1.83 | 9433 | 37367 | 100 |
| 97  | 3081 | 11515 | 1.87 | 1.80 | 9972 | 37453 | 100 |
| 98  | 2998 | 11360 | 1.88 | 1.76 | 9372 | 37911 | 100 |
| 100 | 2935 | 12078 | 1.86 | 1.88 | 9174 | 36856 | 100 |
| 99  | 2929 | 12370 | 1.79 | 1.90 | 9725 | 37568 | 100 |
| 99  | 2942 | 11776 | 1.83 | 1.85 | 9492 | 36903 | 100 |
| 100 | 2969 | 11613 | 1.84 | 1.80 | 9501 | 37911 | 100 |
| 99  | 2768 | 11946 | 1.77 | 1.84 | 9417 | 38068 | 100 |
| 99  | 2819 | 11542 | 1.76 | 1.80 | 9434 | 37439 | 100 |
| 100 | 2868 | 11492 | 1.81 | 1.80 | 9435 | 37262 | 100 |
| 99  | 3010 | 11276 | 1.81 | 1.81 | 9777 | 36613 | 100 |
| 100 | 2822 | 11900 | 1.80 | 1.83 | 9357 | 37473 | 100 |
| 100 | 2797 | 11913 | 1.76 | 1.84 | 9463 | 37861 | 100 |
| 100 | 2840 | 12288 | 1.80 | 1.88 | 9579 | 37467 | 100 |
| 98  | 2922 | 12034 | 1.80 | 1.84 | 9680 | 38307 | 100 |
| 99  | 2773 | 12206 | 1.81 | 1.87 | 9126 | 38112 | 100 |
| 99  | 3119 | 11554 | 1.91 | 1.80 | 9552 | 37223 | 100 |
| 99  | 2905 | 11300 | 1.78 | 1.80 | 9717 | 36616 | 100 |
| 100 | 2657 | 11852 | 1.73 | 1.86 | 9108 | 36866 | 100 |
| 98  | 2968 | 11499 | 1.84 | 1.79 | 9563 | 37470 | 100 |
| 100 | 2921 | 11798 | 1.89 | 1.80 | 9158 | 38136 | 100 |
| 100 | 2761 | 11727 | 1.76 | 1.85 | 9332 | 36963 | 100 |
| 100 | 3138 | 11147 | 1.86 | 1.78 | 9732 | 36504 | 100 |
| 100 | 3039 | 12001 | 1.87 | 1.84 | 9457 | 37497 | 100 |
| 99  | 2950 | 11885 | 1.83 | 1.82 | 9353 | 38210 | 100 |
| 100 | 2839 | 12327 | 1.80 | 1.88 | 9439 | 37733 | 100 |
| 100 | 3014 | 11501 | 1.86 | 1.79 | 9456 | 37804 | 100 |
| 99  | 2816 | 11574 | 1.81 | 1.82 | 9202 | 36490 | 100 |
| 100 | 2842 | 11763 | 1.77 | 1.84 | 9514 | 36936 | 100 |
| 100 | 2662 | 11213 | 1.75 | 1.77 | 9080 | 37105 | 100 |
| 100 | 2991 | 11598 | 1.79 | 1.79 | 9818 | 38104 | 100 |
| 99  | 2902 | 11589 | 1.80 | 1.79 | 9478 | 37683 | 100 |
| 100 | 2780 | 11909 | 1.76 | 1.87 | 9516 | 36861 | 100 |
| 100 | 2840 | 11711 | 1.80 | 1.81 | 9564 | 38065 | 100 |
| 100 | 3056 | 12084 | 1.85 | 1.85 | 9641 | 37639 | 100 |
| 99  | 3041 | 11646 | 1.90 | 1.83 | 9507 | 37115 | 100 |
| 100 | 2772 | 10939 | 1.77 | 1.73 | 9204 | 37424 | 100 |
| 99  | 2956 | 12049 | 1.86 | 1.89 | 9324 | 37823 | 100 |
| 100 | 3199 | 12145 | 1.97 | 1.85 | 9488 | 37714 | 100 |
| 100 | 2796 | 12227 | 1.77 | 1.85 | 9645 | 38286 | 100 |
| 100 | 2842 | 11764 | 1.81 | 1.82 | 9295 | 37550 | 100 |
| 98  | 2854 | 11970 | 1.81 | 1.86 | 9350 | 37527 | 100 |
| 97  | 2860 | 12136 | 1.81 | 1.89 | 9360 | 37383 | 100 |
| 100 | 3005 | 11576 | 1.87 | 1.80 | 9417 | 37819 | 100 |
| 100 | 2921 | 11900 | 1.83 | 1.85 | 9345 | 37199 | 100 |
| 100 | 2794 | 11646 | 1.74 | 1.81 | 9563 | 37724 | 100 |
| 100 | 2702 | 11835 | 1.73 | 1.86 | 9353 | 37644 | 100 |
| 98  | 2782 | 11630 | 1.78 | 1.81 | 9303 | 37485 | 100 |
| 100 | 3072 | 11353 | 1.88 | 1.78 | 9553 | 37540 | 100 |
| 100 | 3053 | 11421 | 1.92 | 1.83 | 9328 | 36554 | 100 |
| 100 | 2838 | 11117 | 1.79 | 1.75 | 9538 | 37390 | 100 |
| 98  | 3056 | 11738 | 1.89 | 1.81 | 9595 | 37828 | 100 |
| 99  | 3245 | 11955 | 1.95 | 1.88 | 9680 | 37391 | 100 |
| 99  | 2958 | 11897 | 1.83 | 1.84 | 9627 | 37751 | 100 |
| 100 | 2851 | 12134 | 1.87 | 1.90 | 9136 | 37009 | 100 |
| 100 | 2577 | 11049 | 1.65 | 1.72 | 9557 | 37739 | 100 |
| 100 | 2914 | 11632 | 1.85 | 1.86 | 9236 | 36133 | 100 |
| 100 | 2867 | 12480 | 1.84 | 1.91 | 9328 | 37281 | 100 |
| 99  | 2683 | 12065 | 1.75 | 1.90 | 9097 | 36757 | 100 |
| 99  | 2807 | 11525 | 1.76 | 1.79 | 9595 | 37477 | 100 |
| 99  | 3075 | 11912 | 1.91 | 1.84 | 9645 | 37870 | 100 |
| 99  | 2743 | 12054 | 1.81 | 1.85 | 8959 | 38011 | 100 |
| 100 | 2958 | 10892 | 1.88 | 1.75 | 9241 | 36499 | 100 |
| 99  | 2689 | 11572 | 1.80 | 1.82 | 9013 | 36867 | 100 |
| 99  | 2993 | 12275 | 1.84 | 1.87 | 9634 | 38151 | 100 |
| 100 | 2719 | 11476 | 1.81 | 1.84 | 8804 | 36315 | 100 |
| 97  | 2906 | 11653 | 1.81 | 1.80 | 9616 | 37920 | 100 |
| 100 | 2976 | 12380 | 1.83 | 1.89 | 9620 | 37870 | 100 |
| 99  | 2845 | 11828 | 1.80 | 1.85 | 9282 | 36930 | 100 |
| 100 | 2745 | 11425 | 1.75 | 1.78 | 9505 | 37472 | 100 |
| 99  | 2789 | 11228 | 1.78 | 1.78 | 9490 | 37028 | 100 |
| 98  | 2926 | 11734 | 1.83 | 1.82 | 9270 | 37477 | 100 |
| 99  | 3083 | 11692 | 1.87 | 1.80 | 9778 | 37747 | 100 |
| 99  | 2983 | 11707 | 1.88 | 1.85 | 9365 | 37283 | 100 |
| 100 | 2764 | 11844 | 1.74 | 1.81 | 9580 | 38258 | 100 |
| 99  | 2961 | 12077 | 1.82 | 1.88 | 9542 | 37466 | 100 |
| 100 | 2978 | 12364 | 1.89 | 1.90 | 9200 | 37041 | 100 |
| 100 | 2781 | 12263 | 1.77 | 1.87 | 9223 | 37746 | 100 |
| 100 | 2614 | 11928 | 1.71 | 1.83 | 9243 | 37750 | 100 |
| 99  | 3055 | 12162 | 1.88 | 1.90 | 9470 | 36924 | 100 |
| 100 | 2834 | 12343 | 1.84 | 1.88 | 9150 | 37913 | 100 |
| 98  | 2979 | 11780 | 1.81 | 1.83 | 9641 | 36845 | 100 |
| 100 | 3123 | 12068 | 1.89 | 1.85 | 9661 | 37657 | 100 |
| 99  | 2799 | 11513 | 1.80 | 1.80 | 9250 | 37025 | 100 |
| 100 | 2988 | 12422 | 1.84 | 1.91 | 9628 | 38266 | 100 |
| 100 | 2963 | 11081 | 1.85 | 1.77 | 9481 | 36833 | 100 |
| 98  | 2945 | 11401 | 1.79 | 1.81 | 9960 | 36690 | 100 |
| 100 | 2824 | 11511 | 1.79 | 1.80 | 9493 | 37351 | 100 |
| 100 | 2715 | 12226 | 1.74 | 1.84 | 9421 | 38328 | 100 |
| 100 | 3028 | 11535 | 1.84 | 1.80 | 9576 | 37271 | 100 |
| 100 | 2968 | 12242 | 1.85 | 1.88 | 9427 | 37947 | 100 |
| 100 | 3092 | 11805 | 1.92 | 1.88 | 9406 | 36441 | 100 |
| 100 | 3152 | 11371 | 1.92 | 1.78 | 9593 | 37781 | 100 |
| 100 | 2817 | 12538 | 1.75 | 1.94 | 9557 | 37150 | 100 |
| 100 | 2908 | 11982 | 1.85 | 1.87 | 9347 | 36879 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2981 | 12111 | 1.85 | 1.84 | 9385 | 38025 |  | 100 |
|  | 100 | 2816 | 11440 | 1.77 | 1.77 | 9468 | 37491 |  | 100 |
|  | 98  | 2883 | 11936 | 1.80 | 1.85 | 9549 | 37351 |  | 100 |
|  | 100 | 2951 | 11401 | 1.83 | 1.79 | 9483 | 37151 |  | 100 |
|  | 99  | 2818 | 12188 | 1.84 | 1.87 | 9274 | 37437 |  | 100 |
|  | 100 | 2823 | 12480 | 1.79 | 1.88 | 9235 | 38204 |  | 100 |
|  | 99  | 2949 | 11965 | 1.84 | 1.89 | 9588 | 36511 |  | 100 |
|  | 99  | 2755 | 11854 | 1.80 | 1.86 | 9218 | 37545 |  | 100 |
|  | 100 | 2952 | 12583 | 1.85 | 1.90 | 9488 | 37980 |  | 100 |
|  | 100 | 2981 | 12013 | 1.88 | 1.83 | 9410 | 37503 |  | 100 |
|  | 100 | 2806 | 11081 | 1.85 | 1.77 | 9046 | 36683 |  | 100 |
|  | 100 | 2899 | 12458 | 1.84 | 1.88 | 9233 | 38259 |  | 100 |
|  | 97  | 3056 | 12388 | 1.87 | 1.87 | 9628 | 38086 |  | 100 |
|  | 99  | 2964 | 11140 | 1.89 | 1.80 | 9052 | 36205 |  | 100 |
|  | 96  | 3215 | 11759 | 1.91 | 1.79 | 9885 | 38237 |  | 100 |
|  | 99  | 2957 | 11703 | 1.87 | 1.85 | 9258 | 36827 |  | 100 |
|  | 100 | 3078 | 13022 | 1.86 | 1.93 | 9685 | 38708 |  | 100 |
|  | 100 | 2981 | 12222 | 1.85 | 1.87 | 9511 | 38246 |  | 100 |
|  | 99  | 3052 | 11187 | 1.90 | 1.82 | 9444 | 36562 |  | 100 |
|  | 97  | 3026 | 11796 | 1.88 | 1.81 | 9462 | 38036 |  | 100 |
|  | 100 | 2861 | 12635 | 1.79 | 1.91 | 9491 | 38244 |  | 100 |
|  | 100 | 2841 | 12105 | 1.77 | 1.84 | 9488 | 38515 |  | 100 |
|  | 99  | 2799 | 11613 | 1.80 | 1.77 | 9245 | 38310 |  | 100 |
|  | 100 | 3087 | 12075 | 1.88 | 1.80 | 9640 | 38632 |  | 100 |
|  | 99  | 2991 | 11931 | 1.84 | 1.84 | 9695 | 37630 |  | 100 |
|  | 99  | 2710 | 11382 | 1.75 | 1.82 | 9361 | 37007 |  | 100 |
|  | 99  | 2814 | 11603 | 1.76 | 1.78 | 9445 | 38092 |  | 100 |
|  | 99  | 2939 | 12284 | 1.80 | 1.90 | 9608 | 37201 |  | 100 |
|  | 99  | 2890 | 11978 | 1.83 | 1.86 | 9274 | 37217 |  | 100 |
|  | 99  | 2908 | 12208 | 1.82 | 1.89 | 9378 | 37316 |  | 100 |
|  | 99  | 2817 | 11596 | 1.76 | 1.81 | 9415 | 38312 |  | 100 |
|  | 98  | 3008 | 11556 | 1.84 | 1.79 | 9750 | 37792 |  | 100 |
|  | 100 | 2877 | 11421 | 1.82 | 1.82 | 9428 | 37031 |  | 100 |
|  | 99  | 2907 | 11790 | 1.84 | 1.80 | 9467 | 37793 |  | 100 |
|  | 99  | 2909 | 11379 | 1.81 | 1.75 | 9407 | 38340 |  | 100 |
|  | 100 | 2626 | 11609 | 1.70 | 1.81 | 9252 | 37301 |  | 100 |
|  | 99  | 2879 | 11616 | 1.79 | 1.79 | 9459 | 37865 |  | 100 |
|  | 100 | 3014 | 11913 | 1.85 | 1.84 | 9522 | 37609 |  | 100 |
|  | 100 | 2901 | 12270 | 1.83 | 1.88 | 9214 | 37494 |  | 100 |
|  | 100 | 2772 | 11254 | 1.75 | 1.79 | 9513 | 36608 |  | 100 |
|  | 100 | 2689 | 11466 | 1.71 | 1.80 | 9437 | 36914 |  | 100 |
|  | 100 | 2683 | 11408 | 1.71 | 1.76 | 9486 | 38195 |  | 100 |
|  | 100 | 2695 | 11671 | 1.69 | 1.83 | 9592 | 37024 |  | 100 |
|  | 99  | 2913 | 11723 | 1.82 | 1.82 | 9450 | 37322 |  | 100 |
|  | 99  | 2980 | 12173 | 1.86 | 1.86 | 9515 | 38206 |  | 100 |
|  | 100 | 2933 | 11726 | 1.81 | 1.84 | 9555 | 36886 |  | 100 |
|  | 100 | 3055 | 11551 | 1.88 | 1.79 | 9421 | 37804 |  | 100 |
|  | 98  | 2906 | 12247 | 1.83 | 1.87 | 9410 | 37972 |  | 100 |
|  | 100 | 2937 | 12084 | 1.81 | 1.83 | 9724 | 38010 |  | 100 |
|  | 100 | 2991 | 12191 | 1.81 | 1.88 | 9741 | 37404 |  | 100 |
|  | 100 | 2873 | 12554 | 1.78 | 1.89 | 9530 | 38623 |  | 100 |
|  | 100 | 2962 | 11999 | 1.87 | 1.87 | 9251 | 37589 |  | 100 |
|  | 99  | 2976 | 11234 | 1.83 | 1.78 | 9595 | 37118 |  | 100 |
|  | 98  | 2996 | 11879 | 1.88 | 1.87 | 9333 | 36812 |  | 100 |
|  | 100 | 2883 | 12360 | 1.80 | 1.93 | 9546 | 37021 |  | 100 |
|  | 100 | 2795 | 10812 | 1.79 | 1.74 | 9226 | 37142 |  | 100 |
|  | 98  | 2873 | 11153 | 1.77 | 1.76 | 9667 | 36932 |  | 100 |
|  | 98  | 2737 | 11846 | 1.75 | 1.84 | 9335 | 37378 |  | 100 |
|  | 98  | 2994 | 12620 | 1.88 | 1.93 | 9420 | 37505 |  | 100 |
|  | 98  | 2880 | 11498 | 1.78 | 1.78 | 9699 | 37707 |  | 100 |
|  | 100 | 2667 | 11981 | 1.73 | 1.83 | 9251 | 38405 |  | 100 |
|  | 97  | 2998 | 11614 | 1.83 | 1.83 | 9707 | 37122 |  | 100 |
|  | 100 | 2833 | 11765 | 1.79 | 1.81 | 9602 | 37501 |  | 100 |
|  | 99  | 3081 | 11849 | 1.90 | 1.82 | 9481 | 38114 |  | 100 |
|  | 100 | 2948 | 12055 | 1.86 | 1.86 | 9481 | 37954 |  | 100 |
|  | 98  | 2999 | 11789 | 1.85 | 1.81 | 9470 | 37976 |  | 100 |
|  | 99  | 2858 | 11790 | 1.81 | 1.86 | 9290 | 37301 |  | 100 |
|  | 100 | 2997 | 11566 | 1.86 | 1.80 | 9404 | 37422 |  | 100 |
|  | 100 | 2943 | 11694 | 1.85 | 1.82 | 9457 | 37392 |  | 100 |
|  | 99  | 2763 | 11734 | 1.75 | 1.81 | 9378 | 38175 |  | 100 |
|  | 99  | 3168 | 12166 | 1.93 | 1.84 | 9542 | 38086 |  | 100 |
|  | 98  | 2858 | 10875 | 1.79 | 1.75 | 9576 | 36579 |  | 100 |
|  | 98  | 2917 | 12492 | 1.87 | 1.88 | 9265 | 38096 |  | 100 |
|  | 98  | 2936 | 11385 | 1.84 | 1.76 | 9393 | 37570 |  | 100 |
|  | 99  | 2884 | 11947 | 1.80 | 1.87 | 9481 | 37057 |  | 100 |
|  | 99  | 2966 | 12031 | 1.85 | 1.88 | 9600 | 37449 |  | 100 |
|  | 100 | 2898 | 11719 | 1.87 | 1.83 | 9149 | 37409 |  | 100 |
|  | 100 | 2800 | 12042 | 1.75 | 1.84 | 9507 | 37877 |  | 100 |
|  | 99  | 2900 | 12008 | 1.82 | 1.84 | 9483 | 37861 |  | 100 |
|  | 98  | 2901 | 12155 | 1.82 | 1.89 | 9375 | 37033 |  | 100 |
|  | 98  | 2896 | 12276 | 1.85 | 1.87 | 9195 | 38428 |  | 100 |
|  | 100 | 2994 | 12358 | 1.88 | 1.87 | 9290 | 38028 |  | 100 |
|  | 99  | 2870 | 11730 | 1.80 | 1.80 | 9467 | 37934 |  | 100 |
|  | 100 | 2837 | 11341 | 1.80 | 1.80 | 9361 | 36653 |  | 100 |
|  | 98  | 3145 | 11636 | 1.87 | 1.80 | 9719 | 37250 |  | 100 |
|  | 100 | 2761 | 11853 | 1.73 | 1.84 | 9497 | 37524 |  | 100 |
|  | 100 | 2869 | 11702 | 1.81 | 1.85 | 9460 | 36806 |  | 100 |
|  | 98  | 2981 | 11976 | 1.88 | 1.85 | 9397 | 37319 |  | 100 |
|  | 100 | 3002 | 11567 | 1.85 | 1.79 | 9429 | 37562 |  | 100 |
|  | 98  | 3069 | 11985 | 1.86 | 1.84 | 9617 | 37744 |  | 100 |
|  | 99  | 2941 | 11732 | 1.85 | 1.82 | 9419 | 37676 |  | 100 |
|  | 99  | 3007 | 11941 | 1.89 | 1.85 | 9401 | 37697 |  | 100 |
|  | 99  | 2847 | 11660 | 1.78 | 1.80 | 9569 | 37949 |  | 100 |
|  | 99  | 2763 | 12196 | 1.75 | 1.86 | 9475 | 37489 |  | 100 |
|  | 99  | 3120 | 12307 | 1.88 | 1.87 | 9612 | 38442 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 100 | 2825 | 11639 | 1.80 | 1.79 | 9286 | 38214 | 100 |
|  | 99  | 2942 | 11999 | 1.86 | 1.85 | 9354 | 38112 | 100 |
|  | 100 | 2889 | 11462 | 1.79 | 1.82 | 9510 | 36544 | 100 |
|  | 100 | 2861 | 11515 | 1.81 | 1.76 | 9253 | 38175 | 100 |
|  | 100 | 2865 | 11851 | 1.82 | 1.81 | 9309 | 37816 | 100 |
|  | 99  | 2880 | 11572 | 1.83 | 1.84 | 9446 | 37076 | 100 |
|  | 99  | 3104 | 11882 | 1.92 | 1.82 | 9450 | 37994 | 100 |
|  | 100 | 2747 | 11413 | 1.78 | 1.78 | 9308 | 38106 | 100 |
|  | 100 | 2979 | 12719 | 1.88 | 1.92 | 9346 | 37980 | 100 |
|  | 99  | 2972 | 12465 | 1.86 | 1.90 | 9479 | 37875 | 100 |
|  | 100 | 3091 | 11634 | 1.88 | 1.82 | 9647 | 37154 | 100 |
|  | 100 | 2930 | 12210 | 1.84 | 1.92 | 9437 | 37346 | 100 |
|  | 99  | 2865 | 12161 | 1.81 | 1.86 | 9312 | 37413 | 100 |
|  | 98  | 3011 | 12512 | 1.88 | 1.88 | 9303 | 38839 | 100 |
|  | 99  | 3126 | 11672 | 1.92 | 1.81 | 9521 | 38109 | 100 |
|  | 100 | 3103 | 12021 | 1.90 | 1.86 | 9638 | 37434 | 100 |
|  | 99  | 2617 | 12146 | 1.73 | 1.85 | 9187 | 38068 | 100 |
|  | 98  | 3047 | 11879 | 1.90 | 1.83 | 9303 | 38210 | 100 |
|  | 99  | 2835 | 12709 | 1.83 | 1.91 | 9362 | 38549 | 100 |
|  | 100 | 3143 | 11393 | 1.91 | 1.82 | 9724 | 36596 | 100 |
|  | 99  | 2865 | 12262 | 1.79 | 1.86 | 9414 | 37704 | 100 |
|  | 100 | 2724 | 11354 | 1.74 | 1.79 | 9388 | 37582 | 100 |
|  | 98  | 2978 | 11956 | 1.84 | 1.85 | 9550 | 37255 | 100 |
|  | 100 | 3151 | 11894 | 1.94 | 1.83 | 9522 | 38323 | 100 |
|  | 100 | 3086 | 12190 | 1.92 | 1.87 | 9430 | 37858 | 100 |
|  | 98  | 2904 | 11107 | 1.83 | 1.73 | 9402 | 38191 | 100 |
|  | 99  | 3051 | 12243 | 1.87 | 1.90 | 9486 | 37674 | 100 |
|  | 100 | 2970 | 12344 | 1.84 | 1.88 | 9667 | 37741 | 100 |
|  | 100 | 2884 | 11109 | 1.80 | 1.76 | 9416 | 36945 | 100 |
|  | 100 | 2896 | 12297 | 1.82 | 1.87 | 9292 | 37851 | 100 |
|  | 98  | 3050 | 12003 | 1.88 | 1.83 | 9488 | 38008 | 100 |
|  | 98  | 2863 | 11290 | 1.80 | 1.79 | 9486 | 37389 | 100 |
|  | 100 | 2961 | 12072 | 1.83 | 1.87 | 9524 | 37175 | 100 |
|  | 99  | 2786 | 11503 | 1.83 | 1.81 | 9144 | 37469 | 100 |
|  | 99  | 2841 | 11212 | 1.77 | 1.77 | 9614 | 37040 | 100 |
|  | 99  | 2892 | 11635 | 1.82 | 1.80 | 9387 | 37274 | 100 |
|  | 100 | 3032 | 11374 | 1.83 | 1.78 | 9801 | 37473 | 100 |
|  | 100 | 3011 | 12331 | 1.82 | 1.87 | 9576 | 38315 | 100 |
|  | 99  | 2866 | 11556 | 1.83 | 1.81 | 9159 | 37321 | 100 |
|  | 100 | 2830 | 11880 | 1.80 | 1.85 | 9511 | 37305 | 100 |
|  | 98  | 2894 | 12191 | 1.83 | 1.88 | 9368 | 37663 | 100 |
|  | 99  | 3135 | 11774 | 1.92 | 1.86 | 9525 | 36593 | 100 |
|  | 99  | 2905 | 11480 | 1.80 | 1.83 | 9603 | 36232 | 100 |
|  | 99  | 2878 | 11255 | 1.82 | 1.79 | 9357 | 37179 | 100 |
|  | 100 | 2797 | 12104 | 1.78 | 1.83 | 9383 | 38433 | 100 |
|  | 99  | 2892 | 11946 | 1.81 | 1.85 | 9645 | 37468 | 100 |
|  | 100 | 2853 | 12077 | 1.79 | 1.85 | 9570 | 38107 | 100 |
|  | 100 | 2839 | 11813 | 1.76 | 1.83 | 9669 | 37481 | 100 |
|  | 100 | 2924 | 12111 | 1.83 | 1.85 | 9596 | 37881 | 100 |
|  | 97  | 3142 | 11629 | 1.93 | 1.81 | 9584 | 37461 | 100 |
|  | 98  | 2905 | 12220 | 1.82 | 1.87 | 9477 | 37801 | 100 |
|  | 99  | 2876 | 11839 | 1.82 | 1.88 | 9342 | 36709 | 100 |
|  | 99  | 2761 | 12036 | 1.74 | 1.86 | 9437 | 37474 | 100 |
|  | 99  | 2795 | 11871 | 1.76 | 1.87 | 9460 | 36885 | 100 |
|  | 98  | 2817 | 11196 | 1.81 | 1.77 | 9355 | 37737 | 100 |
|  | 100 | 2926 | 12546 | 1.77 | 1.93 | 9799 | 37154 | 100 |
|  | 98  | 2967 | 11863 | 1.85 | 1.81 | 9296 | 37936 | 100 |
|  | 99  | 3011 | 11700 | 1.85 | 1.79 | 9647 | 38161 | 100 |
|  | 97  | 3135 | 11325 | 1.87 | 1.78 | 9791 | 37445 | 100 |
|  | 100 | 2844 | 12685 | 1.80 | 1.91 | 9236 | 38042 | 100 |
|  | 100 | 3128 | 11442 | 1.86 | 1.78 | 9748 | 37437 | 100 |
|  | 100 | 3066 | 12454 | 1.92 | 1.88 | 9632 | 38188 | 100 |
|  | 100 | 2906 | 11608 | 1.85 | 1.85 | 9230 | 36926 | 100 |
|  | 99  | 2991 | 12188 | 1.87 | 1.86 | 9451 | 38136 | 100 |
|  | 100 | 2696 | 12098 | 1.77 | 1.90 | 9060 | 36828 | 100 |
|  | 99  | 2762 | 12141 | 1.76 | 1.87 | 9521 | 37482 | 100 |
|  | 98  | 3016 | 11216 | 1.82 | 1.79 | 9890 | 36682 | 100 |
|  | 100 | 2789 | 11454 | 1.78 | 1.80 | 9361 | 37476 | 100 |
|  | 99  | 2736 | 11634 | 1.75 | 1.81 | 9410 | 37780 | 100 |
|  | 100 | 2831 | 11891 | 1.78 | 1.85 | 9406 | 37222 | 100 |
|  | 100 | 2858 | 11870 | 1.79 | 1.82 | 9398 | 37756 | 100 |
|  | 98  | 2886 | 11157 | 1.78 | 1.78 | 9803 | 37464 | 100 |
|  | 98  | 3149 | 12434 | 1.89 | 1.84 | 9754 | 39441 | 100 |
|  | 99  | 2956 | 11205 | 1.83 | 1.79 | 9613 | 36269 | 100 |
|  | 100 | 2914 | 11890 | 1.79 | 1.87 | 9654 | 36517 | 100 |
|  | 100 | 2799 | 12151 | 1.83 | 1.85 | 9113 | 37827 | 100 |
|  | 100 | 2711 | 11304 | 1.72 | 1.78 | 9363 | 37235 | 100 |
|  | 100 | 2985 | 11963 | 1.85 | 1.83 | 9469 | 38105 | 100 |
|  | 98  | 2881 | 11995 | 1.78 | 1.85 | 9495 | 37183 | 100 |
|  | 100 | 2941 | 11982 | 1.81 | 1.87 | 9639 | 37242 | 100 |
|  | 100 | 2783 | 11596 | 1.80 | 1.82 | 9114 | 37136 | 100 |
|  | 100 | 2950 | 12159 | 1.93 | 1.86 | 9210 | 37982 | 100 |
|  | 99  | 2931 | 11794 | 1.83 | 1.83 | 9564 | 37048 | 100 |
|  | 97  | 2977 | 11883 | 1.85 | 1.86 | 9422 | 37601 | 100 |
|  | 99  | 2869 | 11514 | 1.85 | 1.80 | 9161 | 37722 | 100 |
|  | 99  | 2792 | 12126 | 1.74 | 1.86 | 9668 | 37496 | 100 |
|  | 100 | 2941 | 11835 | 1.78 | 1.83 | 9655 | 37636 | 100 |
|  | 99  | 3183 | 11566 | 1.97 | 1.83 | 9445 | 37599 | 100 |
|  | 100 | 2684 | 11767 | 1.74 | 1.83 | 9114 | 36778 | 100 |
|  | 99  | 2921 | 11542 | 1.82 | 1.81 | 9407 | 36794 | 100 |
|  | 96  | 3051 | 11285 | 1.92 | 1.78 | 9080 | 37590 | 100 |
|  | 100 | 3057 | 11747 | 1.86 | 1.81 | 9577 | 37686 | 100 |
|  | 100 | 2925 | 11886 | 1.81 | 1.87 | 9578 | 37135 | 100 |
|  | 99  | 2974 | 11974 | 1.87 | 1.84 | 9392 | 37421 | 100 |
|  | 99  | 3025 | 11794 | 1.89 | 1.87 | 9561 | 37020 | 100 |



|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2805 | 11796 | 1.79 | 1.84 | 9419 | 37593 |  | 100 |
|  | 98  | 3006 | 11206 | 1.83 | 1.76 | 9643 | 36957 |  | 100 |
|  | 99  | 3122 | 11932 | 1.89 | 1.84 | 9652 | 37858 |  | 100 |
|  | 100 | 2901 | 11698 | 1.81 | 1.81 | 9401 | 37998 |  | 100 |
|  | 100 | 2902 | 11545 | 1.87 | 1.79 | 9105 | 37518 |  | 100 |
|  | 100 | 2916 | 11496 | 1.81 | 1.79 | 9575 | 37644 |  | 100 |
|  | 98  | 2968 | 11586 | 1.86 | 1.82 | 9178 | 37261 |  | 100 |
|  | 100 | 2916 | 11676 | 1.81 | 1.79 | 9597 | 38182 |  | 100 |
|  | 98  | 3024 | 11426 | 1.91 | 1.78 | 9246 | 37643 |  | 100 |
|  | 99  | 2995 | 13164 | 1.87 | 1.98 | 9371 | 38040 |  | 100 |
|  | 99  | 2665 | 11648 | 1.75 | 1.81 | 9164 | 37593 |  | 100 |
|  | 100 | 2936 | 11572 | 1.83 | 1.81 | 9514 | 36957 |  | 100 |
|  | 99  | 2923 | 12430 | 1.89 | 1.85 | 9157 | 39155 |  | 100 |
|  | 98  | 3003 | 11940 | 1.90 | 1.85 | 9272 | 37535 |  | 100 |
|  | 100 | 2751 | 11337 | 1.75 | 1.81 | 9392 | 36472 |  | 100 |
|  | 100 | 3044 | 12082 | 1.83 | 1.87 | 9849 | 37681 |  | 100 |
|  | 99  | 3118 | 12324 | 1.87 | 1.87 | 9795 | 38300 |  | 100 |
|  | 98  | 2871 | 12319 | 1.86 | 1.86 | 9269 | 38081 |  | 100 |
|  | 98  | 2683 | 12406 | 1.70 | 1.91 | 9548 | 37574 |  | 100 |
|  | 100 | 2814 | 12352 | 1.79 | 1.89 | 9418 | 37739 |  | 100 |
|  | 99  | 2949 | 12043 | 1.82 | 1.84 | 9800 | 37805 |  | 100 |
|  | 98  | 2944 | 12138 | 1.83 | 1.88 | 9487 | 37162 |  | 100 |
|  | 100 | 2888 | 11810 | 1.83 | 1.84 | 9304 | 37453 |  | 100 |
|  | 99  | 2722 | 12178 | 1.76 | 1.90 | 9331 | 37116 |  | 100 |
|  | 100 | 2806 | 12069 | 1.76 | 1.86 | 9514 | 38196 |  | 100 |
|  | 98  | 2983 | 11603 | 1.86 | 1.84 | 9337 | 36848 |  | 100 |
|  | 100 | 2842 | 12182 | 1.74 | 1.85 | 9658 | 38602 |  | 100 |
|  | 99  | 2812 | 12298 | 1.79 | 1.87 | 9381 | 37789 |  | 100 |
|  | 100 | 3027 | 12219 | 1.84 | 1.92 | 9559 | 36792 |  | 100 |
|  | 98  | 2953 | 11674 | 1.82 | 1.85 | 9568 | 37167 |  | 100 |
|  | 100 | 3017 | 12370 | 1.86 | 1.88 | 9717 | 38111 |  | 100 |
|  | 99  | 3027 | 12431 | 1.92 | 1.88 | 9222 | 38106 |  | 100 |
|  | 99  | 3013 | 12145 | 1.85 | 1.88 | 9604 | 36791 |  | 100 |
|  | 99  | 2829 | 12330 | 1.79 | 1.85 | 9420 | 38558 |  | 100 |
|  | 100 | 2945 | 12125 | 1.90 | 1.86 | 9110 | 37454 |  | 100 |
|  | 99  | 2875 | 11641 | 1.81 | 1.77 | 9287 | 38603 |  | 100 |
|  | 100 | 2844 | 12166 | 1.81 | 1.88 | 9437 | 37387 |  | 100 |
|  | 97  | 2889 | 11756 | 1.84 | 1.86 | 9201 | 36370 |  | 100 |
|  | 99  | 2885 | 12031 | 1.82 | 1.87 | 9471 | 37567 |  | 100 |
|  | 99  | 2808 | 12026 | 1.82 | 1.83 | 9300 | 37850 |  | 100 |
|  | 100 | 3011 | 12336 | 1.88 | 1.91 | 9589 | 37677 |  | 100 |
|  | 99  | 2719 | 11768 | 1.79 | 1.84 | 9114 | 37299 |  | 100 |
|  | 99  | 3023 | 11924 | 1.84 | 1.85 | 9582 | 37302 |  | 100 |
|  | 99  | 2906 | 10853 | 1.86 | 1.73 | 9253 | 37021 |  | 100 |
|  | 98  | 2968 | 11441 | 1.84 | 1.81 | 9487 | 36932 |  | 100 |
|  | 96  | 3126 | 11891 | 1.91 | 1.83 | 9372 | 37344 |  | 100 |
|  | 99  | 2941 | 11863 | 1.85 | 1.83 | 9394 | 37932 |  | 100 |
|  | 98  | 2951 | 12510 | 1.87 | 1.91 | 9220 | 37578 |  | 100 |
|  | 99  | 2827 | 11709 | 1.80 | 1.83 | 9218 | 36791 |  | 100 |
|  | 99  | 2913 | 11270 | 1.76 | 1.81 | 9723 | 36891 |  | 100 |
|  | 100 | 2985 | 11704 | 1.84 | 1.84 | 9559 | 36972 |  | 100 |
|  | 98  | 2699 | 11831 | 1.74 | 1.81 | 9399 | 37672 |  | 100 |
|  | 99  | 2802 | 12072 | 1.74 | 1.86 | 9530 | 37514 |  | 100 |
|  | 99  | 2916 | 11562 | 1.83 | 1.77 | 9494 | 38577 |  | 100 |
|  | 99  | 2796 | 11972 | 1.84 | 1.86 | 9135 | 37306 |  | 100 |
|  | 99  | 2981 | 11557 | 1.83 | 1.80 | 9644 | 37044 |  | 100 |
|  | 100 | 3173 | 12337 | 1.96 | 1.90 | 9404 | 37773 |  | 100 |
|  | 99  | 3017 | 11812 | 1.91 | 1.82 | 9165 | 38103 |  | 100 |
|  | 100 | 2761 | 11847 | 1.75 | 1.83 | 9517 | 37436 |  | 100 |
|  | 99  | 2966 | 11873 | 1.85 | 1.82 | 9354 | 38258 |  | 100 |
|  | 100 | 2626 | 12375 | 1.70 | 1.92 | 9467 | 37557 |  | 100 |
|  | 99  | 2909 | 11663 | 1.85 | 1.80 | 9492 | 37569 |  | 100 |
|  | 98  | 3008 | 10974 | 1.93 | 1.74 | 9224 | 37405 |  | 100 |
|  | 98  | 2876 | 11773 | 1.80 | 1.85 | 9523 | 36608 |  | 100 |
|  | 100 | 2897 | 10824 | 1.84 | 1.74 | 9162 | 36685 |  | 100 |
|  | 99  | 2910 | 12622 | 1.82 | 1.90 | 9517 | 38306 |  | 100 |
|  | 100 | 2799 | 11890 | 1.75 | 1.85 | 9579 | 37477 |  | 100 |
|  | 99  | 2790 | 11261 | 1.77 | 1.78 | 9404 | 37100 |  | 100 |
|  | 100 | 2835 | 11538 | 1.81 | 1.80 | 9271 | 37714 |  | 100 |
|  | 100 | 3071 | 11453 | 1.88 | 1.77 | 9628 | 37479 |  | 100 |
|  | 100 | 2928 | 11151 | 1.85 | 1.80 | 9312 | 36383 |  | 100 |
|  | 100 | 2886 | 12109 | 1.84 | 1.87 | 9449 | 37413 |  | 100 |
|  | 100 | 2968 | 11754 | 1.85 | 1.82 | 9398 | 37718 |  | 100 |
|  | 99  | 2909 | 11831 | 1.83 | 1.83 | 9282 | 37734 |  | 100 |
|  | 100 | 3092 | 11767 | 1.95 | 1.85 | 9155 | 37149 |  | 100 |
|  | 100 | 2918 | 11793 | 1.85 | 1.82 | 9429 | 37533 |  | 100 |
|  | 100 | 2774 | 11238 | 1.77 | 1.77 | 9265 | 36957 |  | 100 |
|  | 100 | 2847 | 12195 | 1.82 | 1.89 | 9228 | 37136 |  | 100 |
|  | 100 | 3157 | 11604 | 1.93 | 1.80 | 9577 | 37233 |  | 100 |
|  | 100 | 2771 | 11446 | 1.81 | 1.77 | 9352 | 38168 |  | 100 |
|  | 100 | 2786 | 11837 | 1.78 | 1.87 | 9388 | 36997 |  | 100 |
|  | 100 | 2878 | 11710 | 1.82 | 1.86 | 9240 | 36735 |  | 100 |
|  | 99  | 2900 | 12239 | 1.78 | 1.87 | 9648 | 37964 |  | 100 |
|  | 100 | 2839 | 11508 | 1.84 | 1.83 | 9041 | 36543 |  | 100 |
|  | 100 | 2719 | 12437 | 1.72 | 1.90 | 9423 | 37526 |  | 100 |
|  | 99  | 2900 | 11233 | 1.81 | 1.77 | 9636 | 37054 |  | 100 |
|  | 99  | 3122 | 11409 | 1.89 | 1.81 | 9583 | 36878 |  | 100 |
|  | 100 | 2939 | 11497 | 1.86 | 1.79 | 9247 | 37634 |  | 100 |
|  | 100 | 2980 | 11394 | 1.86 | 1.81 | 9428 | 36592 |  | 100 |
|  | 99  | 3102 | 11132 | 1.93 | 1.77 | 9616 | 36867 |  | 100 |
|  | 100 | 2917 | 11396 | 1.84 | 1.78 | 9556 | 37211 |  | 100 |
|  | 99  | 2890 | 11429 | 1.80 | 1.81 | 9387 | 37273 |  | 100 |
|  | 100 | 3011 | 11673 | 1.86 | 1.83 | 9446 | 37204 |  | 100 |
|  | 99  | 2962 | 12240 | 1.86 | 1.92 | 9277 | 36997 |  | 100 |
|  | 99  | 2750 | 12692 | 1.73 | 1.93 | 9591 | 37757 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 3107 | 11815 | 1.90 | 1.85 | 9483 | 37134 |  | 100 |
|  | 100 | 3008 | 11033 | 1.87 | 1.77 | 9385 | 36446 |  | 100 |
|  | 99  | 3012 | 11104 | 1.89 | 1.78 | 9348 | 36684 |  | 100 |
|  | 100 | 2847 | 11929 | 1.79 | 1.87 | 9563 | 36652 |  | 100 |
|  | 99  | 2943 | 12210 | 1.84 | 1.85 | 9319 | 38410 |  | 100 |
|  | 100 | 2834 | 12241 | 1.78 | 1.86 | 9376 | 38106 |  | 100 |
|  | 100 | 2881 | 11410 | 1.83 | 1.79 | 9372 | 37061 |  | 100 |
|  | 99  | 2928 | 11561 | 1.82 | 1.81 | 9581 | 37012 |  | 100 |
|  | 99  | 2910 | 11815 | 1.83 | 1.83 | 9382 | 37060 |  | 100 |
|  | 99  | 2798 | 11002 | 1.79 | 1.77 | 9421 | 36747 |  | 100 |
|  | 98  | 3024 | 11782 | 1.90 | 1.83 | 9270 | 37199 |  | 100 |
|  | 100 | 2780 | 12638 | 1.76 | 1.92 | 9346 | 37798 |  | 100 |
|  | 100 | 3059 | 11463 | 1.91 | 1.81 | 9272 | 36802 |  | 100 |
|  | 100 | 2895 | 11456 | 1.82 | 1.81 | 9374 | 37080 |  | 100 |
|  | 100 | 2996 | 11923 | 1.86 | 1.84 | 9474 | 37770 |  | 100 |
|  | 100 | 3010 | 11884 | 1.86 | 1.86 | 9390 | 37228 |  | 100 |
|  | 100 | 2995 | 11690 | 1.82 | 1.81 | 9697 | 37144 |  | 100 |
|  | 100 | 2885 | 12213 | 1.83 | 1.88 | 9414 | 37655 |  | 100 |
|  | 100 | 2880 | 12187 | 1.79 | 1.87 | 9435 | 37902 |  | 100 |
|  | 100 | 2766 | 11040 | 1.80 | 1.75 | 9162 | 37238 |  | 100 |
|  | 98  | 2928 | 12272 | 1.85 | 1.89 | 9263 | 37636 |  | 100 |
|  | 100 | 3129 | 11959 | 1.89 | 1.85 | 9583 | 37262 |  | 100 |
|  | 100 | 3021 | 11976 | 1.87 | 1.86 | 9427 | 37307 |  | 100 |
|  | 100 | 2959 | 12303 | 1.83 | 1.88 | 9573 | 38400 |  | 100 |
|  | 100 | 2983 | 11666 | 1.83 | 1.83 | 9693 | 37489 |  | 100 |
|  | 100 | 2954 | 12107 | 1.82 | 1.84 | 9500 | 38339 |  | 100 |
|  | 100 | 2966 | 11741 | 1.86 | 1.84 | 9431 | 37023 |  | 100 |
|  | 99  | 2972 | 12396 | 1.84 | 1.88 | 9541 | 37703 |  | 100 |
|  | 100 | 3130 | 11733 | 1.91 | 1.84 | 9539 | 36784 |  | 100 |
|  | 100 | 2790 | 11072 | 1.79 | 1.75 | 9193 | 37085 |  | 100 |
|  | 100 | 2970 | 12278 | 1.80 | 1.88 | 9544 | 37735 |  | 100 |
|  | 99  | 2720 | 11284 | 1.76 | 1.76 | 9228 | 37721 |  | 100 |
|  | 100 | 3056 | 11294 | 1.94 | 1.79 | 9310 | 37230 |  | 100 |
|  | 99  | 2876 | 11837 | 1.79 | 1.83 | 9667 | 38032 |  | 100 |
|  | 100 | 3014 | 11456 | 1.89 | 1.77 | 9401 | 37783 |  | 100 |
|  | 100 | 3269 | 11875 | 1.96 | 1.83 | 9466 | 37740 |  | 100 |
|  | 99  | 2877 | 11423 | 1.83 | 1.81 | 9263 | 37194 |  | 100 |
|  | 100 | 2910 | 11409 | 1.80 | 1.82 | 9575 | 36816 |  | 100 |
|  | 99  | 3062 | 12402 | 1.87 | 1.93 | 9660 | 36760 |  | 100 |
|  | 100 | 2923 | 12205 | 1.82 | 1.86 | 9537 | 37305 |  | 100 |
|  | 99  | 2944 | 12132 | 1.83 | 1.84 | 9501 | 38205 |  | 100 |
|  | 99  | 2882 | 11707 | 1.78 | 1.82 | 9506 | 37125 |  | 100 |
|  | 100 | 2891 | 11308 | 1.83 | 1.78 | 9257 | 37417 |  | 100 |
|  | 100 | 2765 | 11635 | 1.80 | 1.80 | 9092 | 37707 |  | 100 |
|  | 100 | 3028 | 12029 | 1.87 | 1.87 | 9438 | 37200 |  | 100 |
|  | 100 | 2772 | 11874 | 1.76 | 1.83 | 9395 | 37467 |  | 100 |
|  | 99  | 2857 | 11177 | 1.85 | 1.76 | 9233 | 37465 |  | 100 |
|  | 100 | 2947 | 11698 | 1.85 | 1.81 | 9320 | 37442 |  | 100 |
|  | 100 | 2911 | 11500 | 1.80 | 1.80 | 9589 | 37048 |  | 100 |
|  | 99  | 2910 | 12079 | 1.86 | 1.87 | 9245 | 37528 |  | 100 |
|  | 100 | 3049 | 11969 | 1.82 | 1.85 | 9670 | 37328 |  | 100 |
|  | 100 | 2861 | 12518 | 1.78 | 1.89 | 9566 | 37495 |  | 100 |
|  | 100 | 2906 | 11682 | 1.81 | 1.82 | 9563 | 37707 |  | 100 |
|  | 99  | 2837 | 12293 | 1.74 | 1.87 | 9651 | 38047 |  | 100 |
|  | 100 | 2820 | 12061 | 1.82 | 1.90 | 9178 | 36687 |  | 100 |
|  | 100 | 2967 | 11699 | 1.87 | 1.80 | 9322 | 37737 |  | 100 |
|  | 100 | 2802 | 11714 | 1.80 | 1.82 | 9350 | 37514 |  | 100 |
|  | 100 | 2848 | 12329 | 1.83 | 1.86 | 9270 | 38547 |  | 100 |
|  | 100 | 2905 | 11856 | 1.83 | 1.80 | 9390 | 38057 |  | 100 |
|  | 100 | 3098 | 12412 | 1.93 | 1.90 | 9369 | 38011 |  | 100 |
|  | 99  | 3005 | 11952 | 1.85 | 1.87 | 9434 | 37175 |  | 100 |
|  | 97  | 2962 | 12211 | 1.85 | 1.87 | 9402 | 37969 |  | 100 |
|  | 100 | 2803 | 11388 | 1.77 | 1.79 | 9434 | 37101 |  | 100 |
|  | 100 | 2967 | 11417 | 1.85 | 1.79 | 9587 | 37221 |  | 100 |
|  | 98  | 2940 | 11253 | 1.86 | 1.76 | 9325 | 37252 |  | 100 |
|  | 100 | 3138 | 12017 | 1.93 | 1.88 | 9522 | 37343 |  | 100 |
|  | 99  | 2817 | 11741 | 1.84 | 1.84 | 9155 | 36838 |  | 100 |
|  | 99  | 3159 | 11910 | 1.92 | 1.86 | 9721 | 37678 |  | 100 |
|  | 100 | 2856 | 11747 | 1.81 | 1.84 | 9421 | 37315 |  | 100 |
|  | 100 | 2900 | 12816 | 1.82 | 1.96 | 9354 | 37477 |  | 100 |
|  | 98  | 2863 | 11810 | 1.83 | 1.81 | 9275 | 38067 |  | 100 |
|  | 100 | 2905 | 12252 | 1.83 | 1.91 | 9293 | 36777 |  | 100 |
|  | 100 | 2914 | 12296 | 1.81 | 1.86 | 9417 | 38224 |  | 100 |
|  | 100 | 2742 | 11557 | 1.76 | 1.80 | 9334 | 37201 |  | 100 |
|  | 100 | 3013 | 11793 | 1.93 | 1.87 | 9313 | 36675 |  | 100 |
|  | 99  | 3204 | 11575 | 1.91 | 1.82 | 9717 | 36793 |  | 100 |
|  | 100 | 3022 | 11640 | 1.85 | 1.86 | 9654 | 36460 |  | 100 |
|  | 100 | 2953 | 12041 | 1.84 | 1.86 | 9470 | 37481 |  | 100 |
|  | 99  | 2785 | 11978 | 1.75 | 1.88 | 9452 | 37090 |  | 100 |
|  | 100 | 2881 | 11238 | 1.78 | 1.79 | 9618 | 36673 |  | 100 |
|  | 100 | 2954 | 12693 | 1.92 | 1.93 | 9186 | 37494 |  | 100 |
|  | 100 | 2842 | 11105 | 1.80 | 1.74 | 9354 | 38188 |  | 100 |
|  | 99  | 2946 | 11811 | 1.82 | 1.80 | 9733 | 38199 |  | 100 |
|  | 99  | 2921 | 11005 | 1.84 | 1.74 | 9315 | 37275 |  | 100 |
|  | 99  | 3105 | 11396 | 1.90 | 1.79 | 9517 | 37459 |  | 100 |
|  | 100 | 3011 | 11404 | 1.85 | 1.82 | 9663 | 37289 |  | 100 |
|  | 100 | 2836 | 11815 | 1.79 | 1.87 | 9369 | 36265 |  | 100 |
|  | 100 | 2720 | 13190 | 1.77 | 1.94 | 9266 | 38504 |  | 100 |
|  | 100 | 2865 | 11739 | 1.83 | 1.82 | 9387 | 37439 |  | 100 |
|  | 100 | 2964 | 11586 | 1.85 | 1.78 | 9425 | 38276 |  | 100 |
|  | 100 | 3168 | 11575 | 1.97 | 1.81 | 9423 | 36905 |  | 100 |
|  | 99  | 2949 | 11670 | 1.85 | 1.80 | 9332 | 37994 |  | 100 |
|  | 99  | 2997 | 11559 | 1.90 | 1.84 | 9244 | 36622 |  | 100 |
|  | 100 | 2878 | 11478 | 1.83 | 1.75 | 9314 | 38251 |  | 100 |
|  | 99  | 2823 | 12398 | 1.84 | 1.90 | 9218 | 37844 |  | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 3165 | 11768 | 1.92 | 1.84 | 9523 | 37145 |  | 100 |
|  | 100 | 3029 | 11832 | 1.89 | 1.84 | 9638 | 37223 |  | 100 |
|  | 100 | 2871 | 11472 | 1.77 | 1.78 | 9540 | 37865 |  | 100 |
|  | 100 | 2872 | 11337 | 1.77 | 1.77 | 9561 | 37664 |  | 100 |
|  | 99  | 3037 | 11745 | 1.91 | 1.84 | 9314 | 37226 |  | 100 |
|  | 100 | 2899 | 11793 | 1.83 | 1.83 | 9460 | 37523 |  | 100 |
|  | 100 | 2875 | 11241 | 1.82 | 1.76 | 9467 | 37783 |  | 100 |
|  | 100 | 2720 | 11746 | 1.73 | 1.86 | 9554 | 36989 |  | 100 |
|  | 100 | 2852 | 11317 | 1.78 | 1.81 | 9409 | 36900 |  | 100 |
|  | 99  | 2918 | 12377 | 1.85 | 1.88 | 9422 | 38064 |  | 100 |
|  | 100 | 2714 | 12427 | 1.76 | 1.89 | 9271 | 37622 |  | 100 |
|  | 100 | 2784 | 11677 | 1.80 | 1.82 | 9208 | 37692 |  | 100 |
|  | 99  | 3028 | 11307 | 1.88 | 1.77 | 9523 | 37640 |  | 100 |
|  | 100 | 2901 | 12013 | 1.85 | 1.90 | 9143 | 36608 |  | 100 |
|  | 98  | 2794 | 12295 | 1.78 | 1.86 | 9246 | 38064 |  | 100 |
|  | 99  | 2890 | 10984 | 1.81 | 1.74 | 9435 | 37507 |  | 100 |
|  | 100 | 3022 | 12447 | 1.87 | 1.90 | 9538 | 37451 |  | 100 |
|  | 100 | 2735 | 12031 | 1.76 | 1.83 | 9191 | 37869 |  | 100 |
|  | 100 | 2948 | 11820 | 1.87 | 1.82 | 9365 | 37657 |  | 100 |
|  | 100 | 2857 | 12000 | 1.78 | 1.86 | 9531 | 37570 |  | 100 |
|  | 100 | 2820 | 11491 | 1.79 | 1.75 | 9164 | 38123 |  | 100 |
|  | 100 | 2889 | 12300 | 1.80 | 1.83 | 9351 | 38792 |  | 100 |
|  | 99  | 2803 | 11464 | 1.79 | 1.80 | 9475 | 37170 |  | 100 |
|  | 99  | 3037 | 11997 | 1.88 | 1.83 | 9437 | 37957 |  | 100 |
|  | 98  | 3044 | 11787 | 1.90 | 1.83 | 9302 | 37401 |  | 100 |
|  | 99  | 2821 | 11001 | 1.77 | 1.74 | 9424 | 37635 |  | 100 |
|  | 100 | 2953 | 12512 | 1.83 | 1.93 | 9462 | 37099 |  | 100 |
|  | 99  | 2935 | 10679 | 1.85 | 1.74 | 9403 | 36418 |  | 100 |
|  | 99  | 2935 | 11586 | 1.83 | 1.81 | 9496 | 37039 |  | 100 |
|  | 99  | 3062 | 12506 | 1.84 | 1.90 | 9815 | 38381 |  | 100 |
|  | 100 | 2840 | 11807 | 1.78 | 1.82 | 9401 | 37474 |  | 100 |
|  | 98  | 3082 | 12168 | 1.90 | 1.87 | 9486 | 37879 |  | 100 |
|  | 99  | 3072 | 11980 | 1.88 | 1.84 | 9577 | 37792 |  | 100 |
|  | 100 | 2988 | 11370 | 1.93 | 1.75 | 9215 | 38028 |  | 100 |
|  | 100 | 2744 | 11308 | 1.76 | 1.81 | 9292 | 36626 |  | 100 |
|  | 100 | 2885 | 11325 | 1.75 | 1.81 | 9664 | 36863 |  | 100 |
|  | 100 | 2900 | 12238 | 1.79 | 1.88 | 9626 | 38140 |  | 100 |
|  | 100 | 3094 | 12099 | 1.87 | 1.87 | 9656 | 37643 |  | 100 |
|  | 100 | 2928 | 11959 | 1.86 | 1.82 | 9257 | 38000 |  | 100 |
|  | 99  | 2782 | 11915 | 1.81 | 1.83 | 9089 | 37907 |  | 100 |
|  | 97  | 2892 | 11248 | 1.79 | 1.79 | 9428 | 37288 |  | 100 |
|  | 100 | 2864 | 11771 | 1.83 | 1.81 | 9267 | 38146 |  | 100 |
|  | 99  | 2907 | 11675 | 1.85 | 1.82 | 9358 | 36905 |  | 100 |
|  | 100 | 2743 | 11686 | 1.78 | 1.81 | 9093 | 37810 |  | 100 |
|  | 100 | 2860 | 11778 | 1.81 | 1.82 | 9268 | 37475 |  | 100 |
|  | 100 | 2931 | 11678 | 1.85 | 1.81 | 9304 | 37390 |  | 100 |
|  | 100 | 3049 | 11604 | 1.90 | 1.81 | 9464 | 37213 |  | 100 |
|  | 100 | 2903 | 12138 | 1.80 | 1.88 | 9532 | 37534 |  | 100 |
|  | 99  | 3218 | 11412 | 1.97 | 1.83 | 9493 | 35817 |  | 100 |
|  | 100 | 3046 | 11836 | 1.89 | 1.83 | 9545 | 37719 |  | 100 |
|  | 100 | 2785 | 12154 | 1.73 | 1.85 | 9742 | 38047 |  | 100 |
|  | 98  | 2879 | 11656 | 1.83 | 1.80 | 9125 | 37996 |  | 100 |
|  | 100 | 2903 | 12131 | 1.84 | 1.84 | 9248 | 37966 |  | 100 |
|  | 98  | 2862 | 11858 | 1.82 | 1.85 | 9267 | 37906 |  | 100 |
|  | 100 | 2996 | 11973 | 1.88 | 1.91 | 9398 | 36960 |  | 100 |
|  | 100 | 3097 | 11880 | 1.86 | 1.82 | 9701 | 37728 |  | 100 |
|  | 99  | 2840 | 12346 | 1.83 | 1.88 | 9225 | 38236 |  | 100 |
|  | 100 | 2845 | 11317 | 1.81 | 1.78 | 9174 | 37040 |  | 100 |
|  | 100 | 2925 | 11715 | 1.85 | 1.82 | 9385 | 37586 |  | 100 |
|  | 100 | 3100 | 11354 | 1.95 | 1.81 | 9245 | 36839 |  | 100 |
|  | 98  | 2787 | 12045 | 1.79 | 1.83 | 9207 | 38293 |  | 100 |
|  | 100 | 3052 | 11731 | 1.86 | 1.84 | 9662 | 36862 |  | 100 |
|  | 100 | 2683 | 11831 | 1.75 | 1.86 | 9291 | 36446 |  | 100 |
|  | 99  | 3004 | 11727 | 1.87 | 1.81 | 9430 | 37600 |  | 100 |
|  | 100 | 2755 | 11874 | 1.77 | 1.84 | 9186 | 37500 |  | 100 |
|  | 100 | 2790 | 11783 | 1.80 | 1.83 | 9308 | 37368 |  | 100 |
|  | 99  | 2940 | 11504 | 1.82 | 1.80 | 9548 | 37115 |  | 100 |
|  | 99  | 3100 | 11547 | 1.91 | 1.84 | 9569 | 36862 |  | 100 |
|  | 100 | 2851 | 12328 | 1.80 | 1.89 | 9494 | 37633 |  | 100 |
|  | 100 | 2822 | 12290 | 1.78 | 1.89 | 9395 | 37519 |  | 100 |
|  | 100 | 2870 | 12262 | 1.79 | 1.88 | 9379 | 37114 |  | 100 |
|  | 100 | 2930 | 12203 | 1.83 | 1.92 | 9449 | 36881 |  | 100 |
|  | 100 | 3005 | 12034 | 1.90 | 1.87 | 9402 | 37332 |  | 100 |
|  | 100 | 2867 | 11785 | 1.80 | 1.80 | 9444 | 38031 |  | 100 |
|  | 100 | 2717 | 11767 | 1.77 | 1.83 | 9360 | 37900 |  | 100 |
|  | 98  | 3116 | 11783 | 1.90 | 1.86 | 9515 | 37004 |  | 100 |
|  | 100 | 2893 | 11192 | 1.84 | 1.77 | 9256 | 37584 |  | 100 |
|  | 100 | 2828 | 11939 | 1.78 | 1.86 | 9283 | 37334 |  | 100 |
|  | 100 | 2842 | 11686 | 1.80 | 1.81 | 9469 | 37797 |  | 100 |
|  | 99  | 2772 | 11592 | 1.74 | 1.79 | 9629 | 38068 |  | 100 |
|  | 100 | 3002 | 12438 | 1.86 | 1.89 | 9486 | 37806 |  | 100 |
|  | 99  | 2798 | 11679 | 1.77 | 1.86 | 9530 | 36711 |  | 100 |
|  | 99  | 2982 | 11760 | 1.87 | 1.85 | 9512 | 37037 |  | 100 |
|  | 100 | 2815 | 11430 | 1.79 | 1.77 | 9414 | 37492 |  | 100 |
|  | 99  | 2826 | 11101 | 1.80 | 1.73 | 9406 | 38123 |  | 100 |
|  | 100 | 2802 | 11755 | 1.75 | 1.85 | 9433 | 36903 |  | 100 |
|  | 100 | 3042 | 11923 | 1.84 | 1.84 | 9660 | 37508 |  | 100 |
|  | 99  | 3003 | 12125 | 1.87 | 1.85 | 9352 | 38187 |  | 100 |
|  | 100 | 2921 | 11792 | 1.84 | 1.82 | 9463 | 37653 |  | 100 |
|  | 99  | 3007 | 11523 | 1.89 | 1.81 | 9271 | 37488 |  | 100 |
|  | 98  | 3129 | 12159 | 1.91 | 1.88 | 9674 | 37257 |  | 100 |
|  | 100 | 2876 | 11309 | 1.82 | 1.77 | 9354 | 37908 |  | 100 |
|  | 100 | 2943 | 11742 | 1.83 | 1.81 | 9589 | 37870 |  | 100 |
|  | 100 | 2847 | 12102 | 1.79 | 1.88 | 9501 | 37771 |  | 100 |
|  | 99  | 3128 | 11749 | 1.95 | 1.82 | 9489 | 37443 |  | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 98  | 2853 | 11689 | 1.81 | 1.84 | 9454 | 36794 | 100 |
|  | 100 | 3128 | 11889 | 1.94 | 1.85 | 9462 | 37227 | 100 |
|  | 100 | 2795 | 12328 | 1.75 | 1.88 | 9556 | 37667 | 100 |
|  | 99  | 2894 | 11197 | 1.78 | 1.81 | 9667 | 36015 | 100 |
|  | 100 | 2821 | 11955 | 1.82 | 1.82 | 9094 | 38149 | 100 |
|  | 99  | 3066 | 12192 | 1.85 | 1.84 | 9705 | 38335 | 100 |
|  | 99  | 3006 | 11996 | 1.89 | 1.87 | 9300 | 37210 | 100 |
|  | 99  | 2878 | 11884 | 1.86 | 1.83 | 9213 | 37734 | 100 |
|  | 100 | 2672 | 11714 | 1.73 | 1.81 | 9160 | 37735 | 100 |
|  | 99  | 2875 | 11672 | 1.77 | 1.87 | 9618 | 36341 | 100 |
|  | 100 | 2625 | 12178 | 1.72 | 1.90 | 9162 | 37214 | 100 |
|  | 100 | 2872 | 11445 | 1.82 | 1.81 | 9202 | 37155 | 100 |
|  | 100 | 2937 | 12281 | 1.84 | 1.88 | 9520 | 38004 | 100 |
|  | 98  | 2925 | 11810 | 1.83 | 1.83 | 9425 | 37606 | 100 |
|  | 98  | 3025 | 11088 | 1.88 | 1.76 | 9282 | 36775 | 100 |
|  | 100 | 2772 | 11709 | 1.80 | 1.82 | 9244 | 37457 | 100 |
|  | 97  | 2971 | 11440 | 1.80 | 1.77 | 9613 | 37381 | 100 |
|  | 100 | 3062 | 11885 | 1.93 | 1.84 | 9272 | 37916 | 100 |
|  | 100 | 2807 | 11411 | 1.83 | 1.76 | 9195 | 37964 | 100 |
|  | 99  | 2879 | 12197 | 1.81 | 1.86 | 9486 | 37900 | 100 |
|  | 98  | 3023 | 11171 | 1.87 | 1.77 | 9479 | 36637 | 100 |
|  | 100 | 3053 | 11507 | 1.88 | 1.76 | 9539 | 38132 | 100 |
|  | 99  | 2750 | 12348 | 1.80 | 1.90 | 9079 | 37546 | 100 |
|  | 99  | 2786 | 11579 | 1.77 | 1.83 | 9386 | 36674 | 100 |
|  | 100 | 2878 | 11393 | 1.78 | 1.80 | 9461 | 36726 | 100 |
|  | 99  | 2968 | 11312 | 1.84 | 1.79 | 9492 | 37507 | 100 |
|  | 98  | 2844 | 11044 | 1.81 | 1.77 | 9525 | 36679 | 100 |
|  | 99  | 2965 | 11751 | 1.81 | 1.82 | 9671 | 37896 | 100 |
|  | 100 | 3018 | 11575 | 1.84 | 1.81 | 9650 | 37187 | 100 |
|  | 99  | 3050 | 10970 | 1.90 | 1.77 | 9506 | 36562 | 100 |
|  | 100 | 2965 | 11821 | 1.83 | 1.79 | 9544 | 38369 | 100 |
|  | 99  | 2845 | 11886 | 1.80 | 1.83 | 9667 | 38199 | 100 |
|  | 100 | 2825 | 11749 | 1.78 | 1.86 | 9304 | 36649 | 100 |
|  | 100 | 3057 | 12077 | 1.85 | 1.90 | 9741 | 36672 | 100 |
|  | 99  | 3261 | 11522 | 2.00 | 1.80 | 9479 | 38009 | 100 |
|  | 99  | 2901 | 11511 | 1.81 | 1.83 | 9475 | 36961 | 100 |
|  | 100 | 3002 | 11296 | 1.82 | 1.79 | 9793 | 37025 | 100 |
|  | 100 | 2971 | 12387 | 1.90 | 1.89 | 9323 | 37928 | 100 |
|  | 100 | 2760 | 11915 | 1.79 | 1.87 | 9114 | 37307 | 100 |
|  | 99  | 2950 | 12120 | 1.84 | 1.92 | 9455 | 36264 | 100 |
|  | 98  | 2899 | 10990 | 1.81 | 1.75 | 9363 | 37019 | 100 |
|  | 98  | 2731 | 11916 | 1.74 | 1.82 | 9296 | 37525 | 100 |
|  | 99  | 2743 | 11847 | 1.73 | 1.84 | 9535 | 37834 | 100 |
|  | 98  | 2898 | 10611 | 1.78 | 1.68 | 9636 | 37530 | 100 |
|  | 99  | 2902 | 11527 | 1.81 | 1.80 | 9503 | 37582 | 100 |
|  | 99  | 3099 | 11816 | 1.84 | 1.84 | 9838 | 37405 | 100 |
|  | 99  | 2850 | 11741 | 1.82 | 1.81 | 9098 | 37423 | 100 |
|  | 100 | 2982 | 11667 | 1.83 | 1.83 | 9514 | 37585 | 100 |
|  | 98  | 2708 | 12067 | 1.73 | 1.86 | 9450 | 37497 | 100 |
|  | 100 | 3079 | 12174 | 1.94 | 1.88 | 9328 | 37280 | 100 |
|  | 99  | 2910 | 11481 | 1.79 | 1.79 | 9662 | 37108 | 100 |
|  | 99  | 2953 | 11562 | 1.83 | 1.81 | 9405 | 37136 | 100 |
|  | 99  | 3108 | 12044 | 1.86 | 1.86 | 9855 | 37473 | 100 |
|  | 98  | 2829 | 11666 | 1.76 | 1.80 | 9555 | 37356 | 100 |
|  | 99  | 3053 | 11450 | 1.82 | 1.83 | 9743 | 36553 | 100 |
|  | 100 | 2970 | 11846 | 1.82 | 1.84 | 9547 | 37172 | 100 |
|  | 98  | 2984 | 11621 | 1.89 | 1.84 | 9301 | 37148 | 100 |
|  | 99  | 2839 | 11677 | 1.75 | 1.81 | 9725 | 37675 | 100 |
|  | 99  | 2915 | 12086 | 1.83 | 1.87 | 9418 | 37391 | 100 |
|  | 99  | 2962 | 12112 | 1.83 | 1.90 | 9557 | 37064 | 100 |
|  | 99  | 2920 | 12114 | 1.83 | 1.84 | 9436 | 37705 | 100 |
|  | 100 | 3054 | 12127 | 1.87 | 1.83 | 9688 | 38428 | 100 |
|  | 99  | 3038 | 12060 | 1.89 | 1.84 | 9450 | 37868 | 100 |
|  | 100 | 2826 | 12329 | 1.77 | 1.96 | 9589 | 36773 | 100 |
|  | 99  | 2921 | 11880 | 1.81 | 1.84 | 9585 | 37228 | 100 |
|  | 99  | 3094 | 11591 | 1.89 | 1.80 | 9806 | 37921 | 100 |
|  | 100 | 3028 | 11237 | 1.84 | 1.80 | 9539 | 37049 | 100 |
|  | 100 | 2808 | 12612 | 1.75 | 1.93 | 9363 | 38026 | 100 |
|  | 99  | 2963 | 11592 | 1.87 | 1.82 | 9352 | 36988 | 100 |
|  | 99  | 2635 | 11956 | 1.65 | 1.87 | 9676 | 37114 | 100 |
|  | 100 | 2829 | 11889 | 1.78 | 1.89 | 9612 | 36498 | 100 |
|  | 96  | 2992 | 10882 | 1.86 | 1.73 | 9433 | 37499 | 100 |
|  | 100 | 2792 | 11247 | 1.75 | 1.78 | 9537 | 36890 | 100 |
|  | 100 | 3016 | 12208 | 1.85 | 1.89 | 9537 | 36982 | 100 |
|  | 99  | 2888 | 11758 | 1.80 | 1.83 | 9555 | 37476 | 100 |
|  | 99  | 3127 | 11025 | 1.91 | 1.74 | 9465 | 37272 | 100 |
|  | 99  | 2892 | 11150 | 1.82 | 1.75 | 9488 | 37303 | 100 |
|  | 99  | 3149 | 11587 | 1.93 | 1.78 | 9590 | 37913 | 100 |
|  | 100 | 2718 | 12290 | 1.74 | 1.86 | 9390 | 38130 | 100 |
|  | 98  | 2982 | 11455 | 1.84 | 1.77 | 9563 | 37608 | 100 |
|  | 99  | 2941 | 11734 | 1.81 | 1.83 | 9548 | 37335 | 100 |
|  | 100 | 2933 | 12635 | 1.85 | 1.92 | 9422 | 37779 | 100 |
|  | 98  | 2852 | 11431 | 1.77 | 1.83 | 9527 | 36736 | 100 |
|  | 98  | 2868 | 12115 | 1.79 | 1.84 | 9642 | 38167 | 100 |
|  | 100 | 2827 | 12167 | 1.81 | 1.89 | 9198 | 37073 | 100 |
|  | 99  | 2777 | 11638 | 1.76 | 1.80 | 9564 | 37530 | 100 |
|  | 100 | 3142 | 12577 | 1.95 | 1.85 | 9385 | 39391 | 100 |
|  | 100 | 2739 | 11730 | 1.79 | 1.83 | 9094 | 37117 | 100 |
|  | 99  | 3031 | 11790 | 1.90 | 1.88 | 9456 | 36649 | 100 |
|  | 99  | 2814 | 11178 | 1.75 | 1.78 | 9478 | 36858 | 100 |
|  | 98  | 2973 | 11724 | 1.86 | 1.80 | 9399 | 37940 | 100 |
|  | 100 | 2930 | 11677 | 1.88 | 1.81 | 9267 | 37779 | 100 |
|  | 100 | 2927 | 12401 | 1.84 | 1.88 | 9372 | 37926 | 100 |
|  | 99  | 2947 | 11796 | 1.84 | 1.84 | 9373 | 37144 | 100 |
|  | 99  | 2938 | 11683 | 1.82 | 1.85 | 9628 | 36612 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 98  | 2943 | 12212 | 1.91 | 1.89 | 9174 | 37273 | 100 |
|  | 97  | 2925 | 10593 | 1.85 | 1.69 | 9487 | 37330 | 100 |
|  | 99  | 3043 | 11970 | 1.87 | 1.87 | 9511 | 36961 | 100 |
|  | 99  | 2977 | 11816 | 1.87 | 1.83 | 9401 | 37584 | 100 |
|  | 100 | 3062 | 11524 | 1.88 | 1.81 | 9473 | 37365 | 100 |
|  | 99  | 3043 | 11357 | 1.84 | 1.79 | 9742 | 36918 | 100 |
|  | 99  | 2705 | 11568 | 1.75 | 1.79 | 9265 | 37497 | 100 |
|  | 99  | 2863 | 12006 | 1.79 | 1.83 | 9461 | 38375 | 100 |
|  | 99  | 2796 | 11955 | 1.79 | 1.85 | 9338 | 37750 | 100 |
|  | 99  | 2952 | 12286 | 1.84 | 1.87 | 9458 | 38290 | 100 |
|  | 96  | 2979 | 11842 | 1.86 | 1.80 | 9411 | 37667 | 100 |
|  | 99  | 3200 | 11954 | 1.95 | 1.83 | 9594 | 37852 | 100 |
|  | 100 | 2843 | 11837 | 1.81 | 1.85 | 9183 | 37148 | 100 |
|  | 98  | 2689 | 11970 | 1.79 | 1.86 | 9325 | 37025 | 100 |
|  | 99  | 2967 | 11750 | 1.80 | 1.84 | 9742 | 36573 | 100 |
|  | 99  | 2961 | 11806 | 1.89 | 1.84 | 9299 | 36878 | 100 |
|  | 99  | 2908 | 11239 | 1.82 | 1.79 | 9520 | 37146 | 100 |
|  | 98  | 2958 | 11674 | 1.83 | 1.80 | 9507 | 37490 | 100 |
|  | 98  | 2908 | 11929 | 1.83 | 1.84 | 9482 | 37885 | 100 |
|  | 100 | 2906 | 12115 | 1.83 | 1.83 | 9461 | 37995 | 100 |
|  | 100 | 2984 | 11935 | 1.87 | 1.85 | 9431 | 37500 | 100 |
|  | 100 | 3004 | 10808 | 1.85 | 1.73 | 9532 | 36705 | 100 |
|  | 98  | 3000 | 11643 | 1.90 | 1.83 | 9149 | 37202 | 100 |
|  | 100 | 3003 | 12183 | 1.86 | 1.83 | 9491 | 38832 | 100 |
|  | 98  | 3017 | 11643 | 1.87 | 1.82 | 9447 | 36938 | 100 |
|  | 99  | 3091 | 12001 | 1.86 | 1.85 | 9885 | 37290 | 100 |
|  | 100 | 2834 | 11341 | 1.78 | 1.76 | 9443 | 37855 | 100 |
|  | 99  | 2936 | 11604 | 1.84 | 1.79 | 9315 | 38515 | 100 |
|  | 99  | 2960 | 11989 | 1.84 | 1.87 | 9383 | 37627 | 100 |
|  | 99  | 3129 | 11391 | 1.90 | 1.78 | 9549 | 38152 | 100 |
|  | 100 | 2868 | 12058 | 1.80 | 1.85 | 9480 | 37898 | 100 |
|  | 99  | 2927 | 11322 | 1.81 | 1.77 | 9513 | 37128 | 100 |
|  | 100 | 2907 | 12129 | 1.84 | 1.86 | 9429 | 38032 | 100 |
|  | 98  | 2970 | 11588 | 1.83 | 1.82 | 9513 | 36789 | 100 |
|  | 99  | 2916 | 11791 | 1.84 | 1.84 | 9464 | 37460 | 100 |
|  | 100 | 2937 | 12280 | 1.86 | 1.91 | 9331 | 37360 | 100 |
|  | 100 | 2711 | 12183 | 1.76 | 1.90 | 9278 | 37071 | 100 |
|  | 97  | 3032 | 11588 | 1.86 | 1.79 | 9479 | 37638 | 100 |
|  | 98  | 2969 | 10728 | 1.80 | 1.74 | 9656 | 36528 | 100 |
|  | 98  | 2868 | 11694 | 1.86 | 1.83 | 9117 | 37256 | 100 |
|  | 100 | 2782 | 12205 | 1.81 | 1.86 | 9347 | 38112 | 100 |
|  | 99  | 3048 | 11336 | 1.86 | 1.82 | 9756 | 36086 | 100 |
|  | 99  | 2819 | 11675 | 1.80 | 1.82 | 9299 | 37746 | 100 |
|  | 100 | 3025 | 11744 | 1.85 | 1.86 | 9490 | 36826 | 100 |
|  | 99  | 3058 | 11521 | 1.89 | 1.80 | 9523 | 37176 | 100 |
|  | 99  | 2901 | 12297 | 1.86 | 1.89 | 9435 | 37312 | 100 |
|  | 99  | 2939 | 12261 | 1.81 | 1.88 | 9554 | 36998 | 100 |
|  | 99  | 2988 | 11587 | 1.87 | 1.76 | 9275 | 38334 | 100 |
|  | 100 | 2883 | 11833 | 1.82 | 1.82 | 9450 | 38351 | 100 |
|  | 100 | 2993 | 12212 | 1.89 | 1.89 | 9157 | 37275 | 100 |
|  | 98  | 2813 | 11673 | 1.79 | 1.83 | 9183 | 37616 | 100 |
|  | 100 | 2814 | 11709 | 1.78 | 1.80 | 9424 | 37877 | 100 |
|  | 100 | 2906 | 11935 | 1.79 | 1.82 | 9564 | 37881 | 100 |
|  | 97  | 3043 | 11688 | 1.83 | 1.82 | 9716 | 37617 | 100 |
|  | 100 | 2916 | 12289 | 1.80 | 1.91 | 9718 | 37337 | 100 |
|  | 99  | 2958 | 11653 | 1.81 | 1.80 | 9510 | 37461 | 100 |
|  | 100 | 2684 | 12260 | 1.74 | 1.89 | 9228 | 37242 | 100 |
|  | 100 | 2951 | 11754 | 1.81 | 1.86 | 9570 | 37082 | 100 |
|  | 100 | 2507 | 12199 | 1.64 | 1.84 | 9264 | 38565 | 100 |
|  | 100 | 3052 | 11638 | 1.93 | 1.84 | 9311 | 37176 | 100 |
|  | 100 | 2823 | 11629 | 1.80 | 1.80 | 9243 | 37726 | 100 |
|  | 98  | 2936 | 11332 | 1.85 | 1.76 | 9246 | 37988 | 100 |
|  | 100 | 2741 | 12375 | 1.74 | 1.85 | 9414 | 38366 | 100 |
|  | 100 | 3034 | 11805 | 1.90 | 1.83 | 9346 | 37502 | 100 |
|  | 100 | 2721 | 12189 | 1.75 | 1.90 | 9274 | 36996 | 100 |
|  | 99  | 3057 | 11696 | 1.88 | 1.86 | 9544 | 36806 | 100 |
|  | 99  | 3027 | 11751 | 1.84 | 1.83 | 9639 | 37902 | 100 |
|  | 100 | 2997 | 11867 | 1.89 | 1.86 | 9380 | 36792 | 100 |
|  | 100 | 3062 | 11699 | 1.93 | 1.81 | 9240 | 37620 | 100 |
|  | 97  | 3035 | 11430 | 1.85 | 1.78 | 9653 | 37496 | 100 |
|  | 99  | 2919 | 11921 | 1.82 | 1.81 | 9351 | 38387 | 100 |
|  | 100 | 2840 | 11686 | 1.80 | 1.85 | 9465 | 36836 | 100 |
|  | 100 | 3044 | 11809 | 1.83 | 1.85 | 9694 | 37299 | 100 |
|  | 99  | 2802 | 11623 | 1.73 | 1.76 | 9630 | 38316 | 100 |
|  | 100 | 3078 | 11151 | 1.92 | 1.77 | 9388 | 37145 | 100 |
|  | 99  | 2885 | 11771 | 1.86 | 1.83 | 9357 | 37495 | 100 |
|  | 100 | 3030 | 11392 | 1.89 | 1.79 | 9427 | 37012 | 100 |
|  | 97  | 3112 | 11802 | 1.89 | 1.82 | 9645 | 37633 | 100 |
|  | 100 | 2864 | 12432 | 1.85 | 1.89 | 9194 | 37802 | 100 |
|  | 100 | 2645 | 11350 | 1.71 | 1.83 | 9407 | 36233 | 100 |
|  | 100 | 3048 | 12057 | 1.87 | 1.84 | 9520 | 37690 | 100 |
|  | 99  | 3019 | 11915 | 1.89 | 1.86 | 9519 | 37182 | 100 |
|  | 100 | 2981 | 11604 | 1.85 | 1.81 | 9456 | 36582 | 100 |
|  | 100 | 3041 | 11869 | 1.86 | 1.84 | 9584 | 37401 | 100 |
|  | 99  | 2874 | 11915 | 1.87 | 1.81 | 9065 | 38190 | 100 |
|  | 100 | 2971 | 11885 | 1.82 | 1.82 | 9602 | 38214 | 100 |
|  | 98  | 2863 | 12350 | 1.81 | 1.86 | 9326 | 38219 | 100 |
|  | 100 | 2938 | 11920 | 1.81 | 1.86 | 9576 | 37176 | 100 |
|  | 98  | 3104 | 11548 | 1.94 | 1.81 | 9195 | 37411 | 100 |
|  | 99  | 2727 | 11443 | 1.75 | 1.80 | 9332 | 37238 | 100 |
|  | 100 | 2662 | 11187 | 1.72 | 1.78 | 9403 | 37062 | 100 |
|  | 100 | 2546 | 12058 | 1.70 | 1.84 | 9158 | 37155 | 100 |
|  | 99  | 2850 | 11994 | 1.75 | 1.88 | 9766 | 36987 | 100 |
|  | 98  | 2813 | 11306 | 1.77 | 1.79 | 9412 | 37122 | 100 |
|  | 99  | 2990 | 11296 | 1.85 | 1.81 | 9491 | 36837 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 99  | 2812 | 11231 | 1.79 | 1.76 | 9250 | 37330 |  | 100 |
|  | 100 | 3110 | 11338 | 1.91 | 1.80 | 9489 | 36997 |  | 100 |
|  | 98  | 2939 | 11226 | 1.83 | 1.82 | 9541 | 35988 |  | 100 |
|  | 100 | 2973 | 12240 | 1.86 | 1.87 | 9299 | 37570 |  | 100 |
|  | 99  | 2992 | 11983 | 1.89 | 1.85 | 9437 | 37686 |  | 100 |
|  | 98  | 3088 | 11311 | 1.90 | 1.80 | 9467 | 37034 |  | 100 |
|  | 100 | 2821 | 11744 | 1.81 | 1.85 | 9241 | 37155 |  | 100 |
|  | 100 | 3035 | 11774 | 1.86 | 1.84 | 9674 | 36960 |  | 100 |
|  | 100 | 2920 | 11520 | 1.79 | 1.81 | 9814 | 37207 |  | 100 |
|  | 99  | 3050 | 11171 | 1.90 | 1.78 | 9518 | 36925 |  | 100 |
|  | 100 | 2939 | 11173 | 1.84 | 1.76 | 9380 | 37362 |  | 100 |
|  | 99  | 2995 | 11039 | 1.84 | 1.75 | 9600 | 37480 |  | 100 |
|  | 99  | 3027 | 11776 | 1.85 | 1.86 | 9541 | 37295 |  | 100 |
|  | 99  | 2875 | 12033 | 1.81 | 1.87 | 9315 | 37616 |  | 100 |
|  | 99  | 2900 | 11318 | 1.82 | 1.76 | 9292 | 37972 |  | 100 |
|  | 99  | 2830 | 11628 | 1.82 | 1.80 | 9128 | 38122 |  | 100 |
|  | 99  | 2861 | 11821 | 1.76 | 1.82 | 9484 | 38063 |  | 100 |
|  | 100 | 2716 | 12048 | 1.75 | 1.85 | 9422 | 38312 |  | 100 |
|  | 100 | 2814 | 12363 | 1.77 | 1.90 | 9513 | 37755 |  | 100 |
|  | 99  | 2928 | 11604 | 1.84 | 1.78 | 9363 | 37790 |  | 100 |
|  | 99  | 2954 | 11714 | 1.86 | 1.80 | 9543 | 37494 |  | 100 |
|  | 100 | 2971 | 11242 | 1.89 | 1.79 | 9359 | 37217 |  | 100 |
|  | 99  | 2971 | 11519 | 1.88 | 1.81 | 9510 | 36674 |  | 100 |
|  | 98  | 3127 | 11554 | 1.89 | 1.78 | 9689 | 37744 |  | 100 |
|  | 100 | 2963 | 11636 | 1.79 | 1.81 | 9732 | 37622 |  | 100 |
|  | 99  | 2821 | 12032 | 1.78 | 1.88 | 9461 | 37437 |  | 100 |
|  | 98  | 2757 | 12167 | 1.74 | 1.89 | 9356 | 37357 |  | 100 |
|  | 100 | 2830 | 12335 | 1.84 | 1.91 | 9136 | 37001 |  | 100 |
|  | 99  | 2748 | 12358 | 1.77 | 1.88 | 9242 | 38330 |  | 100 |
|  | 98  | 2900 | 11487 | 1.81 | 1.81 | 9390 | 37002 |  | 100 |
|  | 99  | 3174 | 11248 | 1.91 | 1.78 | 9618 | 36779 |  | 100 |
|  | 100 | 2964 | 11790 | 1.83 | 1.83 | 9645 | 37338 |  | 100 |
|  | 99  | 3053 | 11325 | 1.91 | 1.79 | 9396 | 37176 |  | 100 |
|  | 99  | 3108 | 11262 | 1.88 | 1.78 | 9689 | 37074 |  | 100 |
|  | 99  | 2779 | 12545 | 1.78 | 1.90 | 9196 | 38132 |  | 100 |
|  | 99  | 2944 | 11485 | 1.87 | 1.79 | 9203 | 37556 |  | 100 |
|  | 99  | 2889 | 11303 | 1.88 | 1.77 | 9080 | 37928 |  | 100 |
|  | 100 | 2985 | 11062 | 1.83 | 1.77 | 9549 | 36980 |  | 100 |
|  | 100 | 2926 | 11345 | 1.78 | 1.80 | 9764 | 37033 |  | 100 |
|  | 100 | 2945 | 12408 | 1.83 | 1.88 | 9425 | 38009 |  | 100 |
|  | 99  | 2912 | 11124 | 1.84 | 1.79 | 9385 | 36336 |  | 100 |
|  | 99  | 2877 | 11264 | 1.80 | 1.78 | 9461 | 36903 |  | 100 |
|  | 97  | 3052 | 11751 | 1.86 | 1.79 | 9598 | 38157 |  | 100 |
|  | 99  | 2786 | 11535 | 1.81 | 1.84 | 9123 | 36416 |  | 100 |
|  | 99  | 2821 | 11626 | 1.80 | 1.82 | 9272 | 38000 |  | 100 |
|  | 100 | 2994 | 12161 | 1.90 | 1.88 | 9192 | 37164 |  | 100 |
|  | 100 | 2735 | 12077 | 1.77 | 1.86 | 9406 | 37538 |  | 100 |
|  | 99  | 2593 | 12288 | 1.74 | 1.87 | 9021 | 38038 |  | 100 |
|  | 99  | 2953 | 12110 | 1.85 | 1.90 | 9455 | 36739 |  | 100 |
|  | 99  | 2781 | 11199 | 1.77 | 1.76 | 9421 | 37360 |  | 100 |
|  | 98  | 3114 | 11552 | 1.87 | 1.81 | 9824 | 37029 |  | 100 |
|  | 100 | 2867 | 11847 | 1.79 | 1.85 | 9590 | 37235 |  | 100 |
|  | 100 | 2948 | 11682 | 1.85 | 1.81 | 9480 | 37439 |  | 100 |
|  | 99  | 2781 | 11544 | 1.77 | 1.80 | 9286 | 37249 |  | 100 |
|  | 100 | 2989 | 11576 | 1.82 | 1.83 | 9785 | 36715 |  | 100 |
|  | 98  | 2969 | 11689 | 1.87 | 1.81 | 9267 | 37368 |  | 100 |
|  | 98  | 3008 | 11470 | 1.88 | 1.83 | 9438 | 36685 |  | 100 |
|  | 99  | 2934 | 11491 | 1.85 | 1.81 | 9502 | 37160 |  | 100 |
|  | 100 | 2785 | 11994 | 1.81 | 1.83 | 9117 | 37869 |  | 100 |
|  | 99  | 2793 | 11279 | 1.75 | 1.80 | 9410 | 36922 |  | 100 |
|  | 98  | 2715 | 12207 | 1.77 | 1.85 | 9113 | 37810 |  | 100 |
|  | 98  | 3090 | 11197 | 1.94 | 1.77 | 9461 | 37343 |  | 100 |
|  | 100 | 2933 | 12100 | 1.83 | 1.86 | 9495 | 37244 |  | 100 |
|  | 99  | 2974 | 11475 | 1.86 | 1.78 | 9268 | 37648 |  | 100 |
|  | 99  | 2748 | 12003 | 1.81 | 1.88 | 9192 | 36693 |  | 100 |
|  | 100 | 2995 | 11594 | 1.85 | 1.83 | 9595 | 36863 |  | 100 |
|  | 99  | 3075 | 11398 | 1.89 | 1.79 | 9522 | 37350 |  | 100 |
|  | 99  | 2767 | 11348 | 1.76 | 1.80 | 9419 | 36510 |  | 100 |
|  | 100 | 2586 | 12331 | 1.72 | 1.88 | 9071 | 37620 |  | 100 |
|  | 97  | 3202 | 11796 | 1.88 | 1.84 | 9800 | 37140 |  | 100 |
|  | 97  | 3047 | 12214 | 1.85 | 1.85 | 9673 | 38319 |  | 100 |
|  | 100 | 2835 | 11663 | 1.81 | 1.80 | 9287 | 37357 |  | 100 |
|  | 100 | 2756 | 13033 | 1.75 | 1.95 | 9287 | 38239 |  | 100 |
|  | 99  | 2742 | 11830 | 1.74 | 1.84 | 9731 | 37232 |  | 100 |
|  | 100 | 2809 | 11669 | 1.76 | 1.80 | 9545 | 37931 |  | 100 |
|  | 100 | 3012 | 12515 | 1.83 | 1.89 | 9584 | 37867 |  | 100 |
|  | 100 | 3150 | 12006 | 1.89 | 1.86 | 9843 | 37171 |  | 100 |
|  | 99  | 2895 | 11733 | 1.85 | 1.82 | 9354 | 37691 |  | 100 |
|  | 100 | 2813 | 11696 | 1.77 | 1.82 | 9422 | 37408 |  | 100 |
|  | 100 | 3038 | 11785 | 1.89 | 1.85 | 9417 | 37234 |  | 100 |
|  | 100 | 2663 | 12446 | 1.77 | 1.89 | 9035 | 37812 |  | 100 |
|  | 100 | 3021 | 11827 | 1.90 | 1.85 | 9454 | 36962 |  | 100 |
|  | 100 | 2874 | 12947 | 1.83 | 1.93 | 9315 | 38520 |  | 100 |
|  | 98  | 3152 | 12358 | 1.92 | 1.88 | 9446 | 37809 |  | 100 |
|  | 99  | 3006 | 11878 | 1.81 | 1.84 | 9941 | 37588 |  | 100 |
|  | 100 | 3037 | 11377 | 1.87 | 1.80 | 9448 | 36621 |  | 100 |
|  | 99  | 2993 | 11995 | 1.84 | 1.87 | 9455 | 36721 |  | 100 |
|  | 98  | 3121 | 11782 | 1.91 | 1.81 | 9491 | 38101 |  | 100 |
|  | 99  | 3047 | 11603 | 1.87 | 1.81 | 9683 | 37178 |  | 100 |
|  | 99  | 2921 | 12455 | 1.86 | 1.94 | 9465 | 36548 |  | 100 |
|  | 100 | 3099 | 12354 | 1.89 | 1.88 | 9640 | 37740 |  | 100 |
|  | 100 | 3002 | 11713 | 1.80 | 1.78 | 9930 | 38258 |  | 100 |
|  | 100 | 3032 | 12348 | 1.82 | 1.86 | 9811 | 38308 |  | 100 |
|  | 99  | 2805 | 11771 | 1.72 | 1.81 | 9730 | 37822 |  | 100 |
|  | 99  | 3049 | 12921 | 1.85 | 1.91 | 9833 | 39335 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2898 | 12687 | 1.85 | 1.93 | 9177 | 37476 | 100 |
| 100 | 2889 | 11382 | 1.79 | 1.77 | 9574 | 37625 | 100 |
| 100 | 3087 | 12478 | 1.84 | 1.91 | 9783 | 37615 | 100 |
| 99  | 2873 | 12266 | 1.80 | 1.85 | 9494 | 38257 | 100 |
| 100 | 3067 | 12414 | 1.89 | 1.87 | 9550 | 38257 | 100 |
| 98  | 2864 | 11616 | 1.81 | 1.81 | 9358 | 37709 | 100 |
| 100 | 3004 | 11721 | 1.88 | 1.84 | 9373 | 36849 | 100 |
| 100 | 2647 | 11468 | 1.71 | 1.81 | 9444 | 37035 | 100 |
| 100 | 3012 | 12185 | 1.81 | 1.86 | 9815 | 37993 | 100 |
| 98  | 3050 | 11621 | 1.88 | 1.79 | 9615 | 38456 | 100 |
| 100 | 2827 | 12023 | 1.78 | 1.84 | 9541 | 38259 | 100 |
| 99  | 2946 | 11534 | 1.86 | 1.82 | 9321 | 37490 | 100 |
| 99  | 2864 | 12211 | 1.81 | 1.87 | 9627 | 37440 | 100 |
| 100 | 2689 | 11818 | 1.79 | 1.87 | 8860 | 37194 | 100 |
| 100 | 2962 | 12190 | 1.86 | 1.89 | 9509 | 37034 | 100 |
| 98  | 2837 | 11889 | 1.80 | 1.85 | 9446 | 37364 | 100 |
| 99  | 2914 | 11346 | 1.79 | 1.77 | 9661 | 37367 | 100 |
| 100 | 2751 | 11788 | 1.76 | 1.85 | 9381 | 37067 | 100 |
| 98  | 2945 | 11348 | 1.84 | 1.81 | 9462 | 36787 | 100 |
| 100 | 2993 | 11648 | 1.84 | 1.82 | 9537 | 37523 | 100 |
| 99  | 2939 | 11724 | 1.84 | 1.83 | 9436 | 37372 | 100 |
| 100 | 2939 | 11926 | 1.81 | 1.84 | 9590 | 37009 | 100 |
| 100 | 2578 | 11778 | 1.69 | 1.84 | 9195 | 37123 | 100 |
| 97  | 3008 | 10563 | 1.85 | 1.69 | 9422 | 37445 | 100 |
| 99  | 2912 | 11913 | 1.81 | 1.87 | 9584 | 36645 | 100 |
| 99  | 2971 | 12311 | 1.81 | 1.89 | 9706 | 37067 | 100 |
| 100 | 2851 | 11898 | 1.79 | 1.83 | 9642 | 37700 | 100 |
| 100 | 2734 | 12448 | 1.80 | 1.90 | 9127 | 37748 | 100 |
| 100 | 2728 | 12157 | 1.77 | 1.88 | 9100 | 37944 | 100 |
| 100 | 2823 | 11257 | 1.80 | 1.76 | 9259 | 37973 | 100 |
| 98  | 3055 | 12096 | 1.92 | 1.88 | 9242 | 37392 | 100 |
| 99  | 2719 | 11596 | 1.78 | 1.81 | 9292 | 37324 | 100 |
| 99  | 2949 | 11811 | 1.86 | 1.82 | 9596 | 37791 | 100 |
| 100 | 2794 | 12123 | 1.78 | 1.90 | 9347 | 37094 | 100 |
| 100 | 2900 | 12404 | 1.79 | 1.90 | 9510 | 37422 | 100 |
| 99  | 2965 | 11099 | 1.86 | 1.77 | 9423 | 36662 | 100 |
| 100 | 3091 | 11305 | 1.89 | 1.81 | 9627 | 36312 | 100 |
| 99  | 2865 | 11900 | 1.81 | 1.84 | 9457 | 37662 | 100 |
| 99  | 2833 | 11888 | 1.78 | 1.87 | 9547 | 36837 | 100 |
| 98  | 3098 | 11435 | 1.90 | 1.84 | 9554 | 35955 | 100 |
| 100 | 2772 | 11544 | 1.76 | 1.81 | 9441 | 37288 | 100 |
| 100 | 2926 | 12452 | 1.82 | 1.86 | 9453 | 37868 | 100 |
| 99  | 2950 | 11859 | 1.87 | 1.80 | 9480 | 38266 | 100 |
| 100 | 2939 | 12205 | 1.84 | 1.89 | 9456 | 36949 | 100 |
| 99  | 2946 | 12001 | 1.85 | 1.84 | 9294 | 37835 | 100 |
| 100 | 2885 | 11497 | 1.79 | 1.78 | 9663 | 37637 | 100 |
| 99  | 2941 | 12090 | 1.82 | 1.88 | 9669 | 37612 | 100 |
| 100 | 2609 | 12578 | 1.74 | 1.91 | 9122 | 37350 | 100 |
| 99  | 3018 | 11697 | 1.86 | 1.81 | 9499 | 37312 | 100 |
| 100 | 2927 | 12043 | 1.80 | 1.90 | 9565 | 37045 | 100 |
| 98  | 2895 | 11406 | 1.80 | 1.79 | 9542 | 36844 | 100 |
| 98  | 2727 | 12085 | 1.73 | 1.87 | 9465 | 37905 | 100 |
| 100 | 3242 | 11941 | 1.93 | 1.84 | 9661 | 37396 | 100 |
| 100 | 2969 | 11882 | 1.86 | 1.83 | 9436 | 37505 | 100 |
| 100 | 2996 | 12820 | 1.86 | 1.97 | 9511 | 37386 | 100 |
| 100 | 3325 | 12586 | 1.99 | 1.91 | 9626 | 38630 | 100 |
| 100 | 2814 | 12427 | 1.80 | 1.91 | 9374 | 37118 | 100 |
| 98  | 3105 | 12005 | 1.88 | 1.83 | 9746 | 37770 | 100 |
| 100 | 3063 | 12760 | 1.85 | 1.90 | 9747 | 38863 | 100 |
| 100 | 3026 | 12234 | 1.84 | 1.90 | 9615 | 37324 | 100 |
| 100 | 2819 | 11364 | 1.76 | 1.80 | 9470 | 37208 | 100 |
| 100 | 2777 | 11330 | 1.78 | 1.82 | 9187 | 36617 | 100 |
| 100 | 3023 | 11907 | 1.87 | 1.85 | 9304 | 37354 | 100 |
| 100 | 3142 | 12173 | 1.90 | 1.91 | 9526 | 36734 | 100 |
| 100 | 2897 | 12019 | 1.76 | 1.81 | 9743 | 38941 | 100 |
| 100 | 2762 | 11410 | 1.79 | 1.78 | 9288 | 37651 | 100 |
| 100 | 3054 | 11900 | 1.92 | 1.86 | 9412 | 37439 | 100 |
| 98  | 2726 | 10770 | 1.73 | 1.75 | 9411 | 36514 | 100 |
| 100 | 2735 | 11732 | 1.78 | 1.82 | 9032 | 37413 | 100 |
| 100 | 2950 | 12419 | 1.84 | 1.89 | 9398 | 37324 | 100 |
| 99  | 2932 | 11214 | 1.87 | 1.77 | 9428 | 36985 | 100 |
| 100 | 2949 | 12691 | 1.83 | 1.92 | 9576 | 38056 | 100 |
| 99  | 2979 | 11697 | 1.88 | 1.82 | 9217 | 37015 | 100 |
| 99  | 2917 | 12859 | 1.79 | 1.89 | 9635 | 39201 | 100 |
| 100 | 2818 | 11254 | 1.77 | 1.77 | 9419 | 36966 | 100 |
| 100 | 2832 | 12256 | 1.80 | 1.86 | 9529 | 37985 | 100 |
| 99  | 2900 | 11513 | 1.84 | 1.83 | 9348 | 36226 | 100 |
| 99  | 2923 | 11274 | 1.81 | 1.78 | 9505 | 37628 | 100 |
| 100 | 2963 | 12058 | 1.83 | 1.85 | 9415 | 37800 | 100 |
| 100 | 2733 | 12446 | 1.78 | 1.90 | 9524 | 37915 | 100 |
| 100 | 2676 | 11564 | 1.79 | 1.82 | 9045 | 36894 | 100 |
| 99  | 2948 | 11666 | 1.86 | 1.83 | 9299 | 37100 | 100 |
| 100 | 2855 | 11573 | 1.76 | 1.81 | 9608 | 36999 | 100 |
| 100 | 2729 | 12060 | 1.75 | 1.89 | 9325 | 37013 | 100 |
| 98  | 2850 | 12368 | 1.76 | 1.89 | 9659 | 37816 | 100 |
| 99  | 2721 | 11800 | 1.72 | 1.82 | 9454 | 38024 | 100 |
| 98  | 2938 | 11872 | 1.85 | 1.80 | 9485 | 38318 | 100 |
| 99  | 2879 | 11673 | 1.82 | 1.79 | 9619 | 38036 | 100 |
| 100 | 2924 | 12092 | 1.84 | 1.89 | 9478 | 37187 | 100 |
| 100 | 3054 | 11661 | 1.88 | 1.82 | 9607 | 37384 | 100 |
| 99  | 2742 | 12076 | 1.76 | 1.84 | 9361 | 37721 | 100 |
| 97  | 2888 | 11549 | 1.83 | 1.82 | 9377 | 37159 | 100 |
| 100 | 2667 | 11478 | 1.72 | 1.80 | 9672 | 37507 | 100 |
| 100 | 2914 | 11764 | 1.82 | 1.87 | 9258 | 36826 | 100 |
| 100 | 2955 | 11689 | 1.79 | 1.85 | 9691 | 36872 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2757 | 12945 | 1.77 | 1.90 | 9205 | 38663 |  | 100 |
|  | 100 | 3031 | 12097 | 1.88 | 1.88 | 9477 | 36964 |  | 100 |
|  | 100 | 2849 | 11864 | 1.79 | 1.82 | 9615 | 37744 |  | 100 |
|  | 99  | 3041 | 12010 | 1.97 | 1.83 | 9039 | 37967 |  | 100 |
|  | 98  | 2843 | 12106 | 1.81 | 1.80 | 9167 | 38863 |  | 100 |
|  | 100 | 2879 | 11194 | 1.76 | 1.77 | 9689 | 37246 |  | 100 |
|  | 100 | 2986 | 12260 | 1.83 | 1.89 | 9468 | 37404 |  | 100 |
|  | 100 | 2946 | 11872 | 1.81 | 1.81 | 9536 | 38389 |  | 100 |
|  | 98  | 2833 | 11258 | 1.79 | 1.78 | 9315 | 37668 |  | 100 |
|  | 100 | 3032 | 11876 | 1.88 | 1.82 | 9407 | 37891 |  | 100 |
|  | 100 | 2865 | 12336 | 1.81 | 1.91 | 9361 | 37044 |  | 100 |
|  | 98  | 2923 | 11819 | 1.80 | 1.87 | 9542 | 37002 |  | 100 |
|  | 100 | 2776 | 11566 | 1.71 | 1.81 | 9819 | 37299 |  | 100 |
|  | 99  | 2951 | 11990 | 1.80 | 1.86 | 9597 | 37545 |  | 100 |
|  | 98  | 2764 | 12209 | 1.80 | 1.89 | 9191 | 37159 |  | 100 |
|  | 100 | 2684 | 12111 | 1.80 | 1.88 | 9102 | 37892 |  | 100 |
|  | 98  | 3023 | 11027 | 1.84 | 1.73 | 9650 | 38318 |  | 100 |
|  | 100 | 2815 | 12024 | 1.81 | 1.80 | 9343 | 38631 |  | 100 |
|  | 99  | 2939 | 12041 | 1.84 | 1.86 | 9379 | 37497 |  | 100 |
|  | 99  | 2659 | 11751 | 1.73 | 1.86 | 9390 | 36961 |  | 100 |
|  | 100 | 3035 | 12138 | 1.85 | 1.86 | 9662 | 37658 |  | 100 |
|  | 100 | 2822 | 11988 | 1.79 | 1.83 | 9461 | 38079 |  | 100 |
|  | 100 | 2774 | 12012 | 1.76 | 1.88 | 9553 | 36659 |  | 100 |
|  | 99  | 3087 | 11351 | 1.93 | 1.80 | 9311 | 36855 |  | 100 |
|  | 100 | 2997 | 11567 | 1.85 | 1.85 | 9548 | 36110 |  | 100 |
|  | 97  | 3084 | 11351 | 1.90 | 1.77 | 9469 | 37991 |  | 100 |
|  | 100 | 2999 | 11908 | 1.84 | 1.89 | 9621 | 36594 |  | 100 |
|  | 99  | 2830 | 11596 | 1.75 | 1.81 | 9584 | 37570 |  | 100 |
|  | 99  | 3098 | 11291 | 1.88 | 1.78 | 9598 | 36833 |  | 100 |
|  | 100 | 2843 | 12649 | 1.75 | 1.91 | 9580 | 37979 |  | 100 |
|  | 99  | 2923 | 11152 | 1.91 | 1.76 | 9159 | 37118 |  | 100 |
|  | 100 | 2965 | 10877 | 1.83 | 1.73 | 9649 | 37393 |  | 100 |
|  | 100 | 3007 | 12084 | 1.84 | 1.84 | 9557 | 38440 |  | 100 |
|  | 99  | 2663 | 12057 | 1.72 | 1.87 | 9306 | 37419 |  | 100 |
|  | 98  | 2797 | 12182 | 1.79 | 1.87 | 9333 | 37176 |  | 100 |
|  | 99  | 2780 | 12029 | 1.78 | 1.84 | 9192 | 38069 |  | 100 |
|  | 100 | 2913 | 11575 | 1.79 | 1.77 | 9644 | 38191 |  | 100 |
|  | 99  | 3140 | 11848 | 1.90 | 1.88 | 9595 | 36437 |  | 100 |
|  | 98  | 2980 | 11542 | 1.86 | 1.79 | 9644 | 37643 |  | 100 |
|  | 99  | 2887 | 11869 | 1.81 | 1.84 | 9442 | 37404 |  | 100 |
|  | 100 | 2956 | 11587 | 1.88 | 1.81 | 9407 | 37424 |  | 100 |
|  | 100 | 2972 | 11230 | 1.86 | 1.79 | 9493 | 36926 |  | 100 |
|  | 99  | 2968 | 12142 | 1.86 | 1.88 | 9414 | 37262 |  | 100 |
|  | 99  | 3037 | 12145 | 1.84 | 1.88 | 9717 | 37521 |  | 100 |
|  | 99  | 2804 | 12131 | 1.80 | 1.85 | 9266 | 37869 |  | 100 |
|  | 100 | 2928 | 12071 | 1.82 | 1.85 | 9434 | 38015 |  | 100 |
|  | 100 | 2826 | 11606 | 1.77 | 1.83 | 9437 | 36753 |  | 100 |
|  | 99  | 2876 | 12229 | 1.81 | 1.87 | 9544 | 37805 |  | 100 |
|  | 100 | 2879 | 12342 | 1.84 | 1.86 | 9307 | 37939 |  | 100 |
|  | 99  | 2899 | 11893 | 1.83 | 1.84 | 9301 | 37952 |  | 100 |
|  | 98  | 3113 | 11586 | 1.86 | 1.82 | 9706 | 37182 |  | 100 |
|  | 100 | 3028 | 12163 | 1.91 | 1.87 | 9297 | 37467 |  | 100 |
|  | 99  | 2891 | 11637 | 1.80 | 1.82 | 9519 | 37216 |  | 100 |
|  | 99  | 2963 | 11869 | 1.83 | 1.86 | 9526 | 36931 |  | 100 |
|  | 99  | 2607 | 11830 | 1.73 | 1.81 | 9053 | 38151 |  | 100 |
|  | 100 | 2953 | 11841 | 1.90 | 1.88 | 9107 | 36579 |  | 100 |
|  | 100 | 3003 | 11909 | 1.84 | 1.91 | 9806 | 36619 |  | 100 |
|  | 99  | 2928 | 12110 | 1.80 | 1.88 | 9573 | 37352 |  | 100 |
|  | 98  | 2899 | 11832 | 1.84 | 1.84 | 9372 | 37403 |  | 100 |
|  | 99  | 2878 | 11306 | 1.83 | 1.78 | 9462 | 36840 |  | 100 |
|  | 99  | 2843 | 11594 | 1.84 | 1.77 | 9178 | 38001 |  | 100 |
|  | 99  | 2846 | 12107 | 1.80 | 1.87 | 9225 | 37506 |  | 100 |
|  | 96  | 2898 | 11838 | 1.82 | 1.84 | 9414 | 37523 |  | 100 |
|  | 100 | 2783 | 12077 | 1.75 | 1.89 | 9624 | 36780 |  | 100 |
|  | 100 | 2851 | 11813 | 1.82 | 1.83 | 9254 | 37579 |  | 100 |
|  | 100 | 3056 | 11335 | 1.84 | 1.80 | 9678 | 36533 |  | 100 |
|  | 100 | 2938 | 11775 | 1.86 | 1.81 | 9286 | 37889 |  | 100 |
|  | 97  | 2808 | 12020 | 1.79 | 1.87 | 9411 | 37476 |  | 100 |
|  | 99  | 2875 | 11791 | 1.82 | 1.86 | 9455 | 36989 |  | 100 |
|  | 99  | 2815 | 11963 | 1.75 | 1.80 | 9483 | 38762 |  | 100 |
|  | 100 | 2993 | 11758 | 1.86 | 1.83 | 9501 | 37503 |  | 100 |
|  | 99  | 2940 | 13262 | 1.89 | 2.01 | 9170 | 37436 |  | 100 |
|  | 99  | 2816 | 11987 | 1.80 | 1.85 | 9261 | 37326 |  | 100 |
|  | 100 | 2694 | 11485 | 1.73 | 1.83 | 9271 | 36413 |  | 100 |
|  | 99  | 2966 | 12619 | 1.83 | 1.91 | 9689 | 38016 |  | 100 |
|  | 99  | 3042 | 11520 | 1.88 | 1.76 | 9666 | 38416 |  | 100 |
|  | 99  | 2883 | 11093 | 1.79 | 1.74 | 9411 | 37921 |  | 100 |
|  | 100 | 2843 | 11851 | 1.81 | 1.83 | 9280 | 37347 |  | 100 |
|  | 100 | 2943 | 11820 | 1.86 | 1.83 | 9297 | 37744 |  | 100 |
|  | 100 | 2929 | 10799 | 1.81 | 1.75 | 9544 | 36530 |  | 100 |
|  | 100 | 2814 | 11590 | 1.78 | 1.84 | 9387 | 36693 |  | 100 |
|  | 99  | 2784 | 11921 | 1.81 | 1.82 | 9223 | 38441 |  | 100 |
|  | 100 | 2852 | 11507 | 1.83 | 1.81 | 9293 | 37145 |  | 100 |
|  | 99  | 3037 | 11407 | 1.92 | 1.86 | 9470 | 36098 |  | 100 |
|  | 98  | 2856 | 11652 | 1.84 | 1.84 | 8989 | 37013 |  | 100 |
|  | 100 | 2620 | 11574 | 1.68 | 1.81 | 9507 | 37071 |  | 100 |
|  | 100 | 2696 | 12221 | 1.71 | 1.84 | 9506 | 38174 |  | 100 |
|  | 98  | 2544 | 11560 | 1.66 | 1.80 | 9351 | 37847 |  | 100 |
|  | 98  | 3040 | 11531 | 1.87 | 1.80 | 9690 | 37615 |  | 100 |
|  | 97  | 3095 | 11979 | 1.89 | 1.89 | 9567 | 37095 |  | 100 |
|  | 100 | 2856 | 11371 | 1.77 | 1.80 | 9652 | 36876 |  | 100 |
|  | 99  | 2928 | 10824 | 1.83 | 1.70 | 9438 | 37559 |  | 100 |
|  | 99  | 2972 | 12439 | 1.82 | 1.87 | 9708 | 39009 |  | 100 |
|  | 99  | 2946 | 12424 | 1.84 | 1.90 | 9570 | 37789 |  | 100 |
|  | 100 | 2800 | 12346 | 1.79 | 1.90 | 9275 | 37418 |  | 100 |



|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2803 | 11449 | 1.74 | 1.81 | 9572 | 37266 | 100 |
|  | 98  | 3066 | 12133 | 1.86 | 1.82 | 9804 | 38354 | 100 |
|  | 100 | 2823 | 11900 | 1.77 | 1.82 | 9425 | 37628 | 100 |
|  | 99  | 2777 | 11509 | 1.76 | 1.82 | 9329 | 36993 | 100 |
|  | 99  | 2981 | 11944 | 1.85 | 1.87 | 9671 | 36886 | 100 |
|  | 99  | 3105 | 12001 | 1.93 | 1.87 | 9378 | 37088 | 100 |
|  | 100 | 2894 | 11314 | 1.80 | 1.81 | 9513 | 36786 | 100 |
|  | 99  | 2935 | 11695 | 1.79 | 1.80 | 9543 | 37747 | 100 |
|  | 100 | 3061 | 11755 | 1.94 | 1.80 | 9457 | 37614 | 100 |
|  | 98  | 2806 | 10731 | 1.78 | 1.73 | 9326 | 36638 | 100 |
|  | 100 | 2895 | 11889 | 1.82 | 1.81 | 9527 | 38741 | 100 |
|  | 100 | 3034 | 12294 | 1.90 | 1.90 | 9334 | 36885 | 100 |
|  | 100 | 2957 | 11522 | 1.90 | 1.81 | 9224 | 37081 | 100 |
|  | 99  | 2756 | 11595 | 1.73 | 1.81 | 9528 | 37708 | 100 |
|  | 100 | 2974 | 12349 | 1.87 | 1.92 | 9381 | 37362 | 100 |
|  | 100 | 2855 | 11537 | 1.84 | 1.87 | 9239 | 35733 | 100 |
|  | 98  | 2861 | 10991 | 1.74 | 1.74 | 9807 | 37230 | 100 |
|  | 100 | 2818 | 12209 | 1.84 | 1.88 | 9123 | 37677 | 100 |
|  | 99  | 2920 | 12555 | 1.90 | 1.90 | 9058 | 38477 | 100 |
|  | 100 | 3000 | 11421 | 1.83 | 1.79 | 9706 | 37554 | 100 |
|  | 100 | 3073 | 11876 | 1.87 | 1.84 | 9684 | 37595 | 100 |
|  | 100 | 2920 | 11437 | 1.88 | 1.81 | 9112 | 36669 | 100 |
|  | 99  | 2811 | 11475 | 1.75 | 1.81 | 9564 | 36857 | 100 |
|  | 100 | 2730 | 12886 | 1.77 | 1.95 | 9193 | 37994 | 100 |
|  | 99  | 2935 | 11699 | 1.85 | 1.86 | 9439 | 36262 | 100 |
|  | 100 | 2926 | 11691 | 1.82 | 1.82 | 9496 | 37366 | 100 |
|  | 99  | 2776 | 12100 | 1.73 | 1.85 | 9722 | 37760 | 100 |
|  | 100 | 2985 | 11608 | 1.86 | 1.79 | 9399 | 37848 | 100 |
|  | 99  | 2979 | 11339 | 1.82 | 1.78 | 9583 | 37126 | 100 |
|  | 100 | 2933 | 11985 | 1.79 | 1.79 | 9789 | 39125 | 100 |
|  | 100 | 3026 | 11788 | 1.87 | 1.82 | 9352 | 37655 | 100 |
|  | 100 | 2826 | 11334 | 1.79 | 1.83 | 9241 | 36404 | 100 |
|  | 99  | 3043 | 12255 | 1.80 | 1.84 | 9951 | 38503 | 100 |
|  | 100 | 2767 | 11703 | 1.81 | 1.83 | 9129 | 37510 | 100 |
|  | 100 | 2714 | 11786 | 1.71 | 1.85 | 9510 | 37339 | 100 |
|  | 100 | 2992 | 12143 | 1.83 | 1.86 | 9569 | 37861 | 100 |
|  | 99  | 2870 | 11899 | 1.81 | 1.83 | 9376 | 37690 | 100 |
|  | 98  | 2828 | 11507 | 1.82 | 1.82 | 9216 | 36486 | 100 |
|  | 99  | 2819 | 11351 | 1.79 | 1.84 | 9331 | 36493 | 100 |
|  | 100 | 2713 | 12169 | 1.73 | 1.82 | 9499 | 39243 | 100 |
|  | 100 | 2873 | 11502 | 1.81 | 1.81 | 9378 | 36907 | 100 |
|  | 99  | 2848 | 11717 | 1.81 | 1.81 | 9266 | 37705 | 100 |
|  | 99  | 2983 | 12292 | 1.87 | 1.89 | 9609 | 37825 | 100 |
|  | 100 | 2916 | 11574 | 1.83 | 1.84 | 9426 | 36287 | 100 |
|  | 99  | 2786 | 11330 | 1.77 | 1.80 | 9346 | 36723 | 100 |
|  | 98  | 2912 | 11708 | 1.86 | 1.79 | 9277 | 38283 | 100 |
|  | 100 | 2928 | 12132 | 1.85 | 1.83 | 9509 | 38328 | 100 |
|  | 99  | 2796 | 11561 | 1.79 | 1.85 | 9338 | 36383 | 100 |
|  | 99  | 2936 | 11459 | 1.80 | 1.79 | 9620 | 37086 | 100 |
|  | 100 | 3007 | 12163 | 1.85 | 1.87 | 9650 | 37228 | 100 |
|  | 98  | 2980 | 11263 | 1.82 | 1.77 | 9708 | 37485 | 100 |
|  | 100 | 2659 | 12117 | 1.69 | 1.83 | 9471 | 38250 | 100 |
|  | 99  | 2813 | 12157 | 1.74 | 1.87 | 9697 | 37509 | 100 |
|  | 99  | 2943 | 11938 | 1.86 | 1.87 | 9323 | 36882 | 100 |
|  | 100 | 3234 | 11609 | 1.96 | 1.82 | 9596 | 37512 | 100 |
|  | 100 | 3118 | 11671 | 1.92 | 1.82 | 9420 | 37410 | 100 |
|  | 99  | 2806 | 12357 | 1.81 | 1.90 | 9213 | 37227 | 100 |
|  | 100 | 2769 | 11393 | 1.73 | 1.83 | 9423 | 36054 | 100 |
|  | 97  | 3064 | 11036 | 1.90 | 1.76 | 9426 | 37361 | 100 |
|  | 98  | 2995 | 11265 | 1.87 | 1.76 | 9493 | 37799 | 100 |
|  | 100 | 2781 | 12835 | 1.82 | 1.93 | 8996 | 38512 | 100 |
|  | 100 | 2792 | 11905 | 1.75 | 1.89 | 9536 | 36390 | 100 |
|  | 97  | 3145 | 11302 | 1.91 | 1.79 | 9640 | 36595 | 100 |
|  | 99  | 2910 | 11346 | 1.82 | 1.80 | 9511 | 37247 | 100 |
|  | 100 | 2831 | 11836 | 1.81 | 1.86 | 9258 | 37494 | 100 |
|  | 99  | 2967 | 11616 | 1.81 | 1.81 | 9828 | 37330 | 100 |
|  | 99  | 2890 | 12331 | 1.82 | 1.92 | 9419 | 37425 | 100 |
|  | 99  | 3027 | 11077 | 1.91 | 1.76 | 9249 | 37195 | 100 |
|  | 98  | 2886 | 11552 | 1.82 | 1.84 | 9375 | 36920 | 100 |
|  | 100 | 2914 | 11821 | 1.78 | 1.84 | 9763 | 37363 | 100 |
|  | 99  | 3043 | 12192 | 1.84 | 1.89 | 9702 | 37312 | 100 |
|  | 98  | 2882 | 11534 | 1.82 | 1.80 | 9237 | 36835 | 100 |
|  | 100 | 2940 | 11467 | 1.80 | 1.79 | 9561 | 37264 | 100 |
|  | 99  | 2877 | 12447 | 1.83 | 1.88 | 9395 | 38160 | 100 |
|  | 98  | 2774 | 11639 | 1.76 | 1.83 | 9256 | 36606 | 100 |
|  | 98  | 3053 | 10907 | 1.85 | 1.74 | 9894 | 37073 | 100 |
|  | 99  | 3130 | 11984 | 1.96 | 1.82 | 9300 | 38042 | 100 |
|  | 99  | 2752 | 12855 | 1.75 | 1.95 | 9410 | 37786 | 100 |
|  | 98  | 2836 | 11725 | 1.73 | 1.81 | 9686 | 37372 | 100 |
|  | 97  | 3156 | 12131 | 1.94 | 1.87 | 9442 | 38141 | 100 |
|  | 100 | 2750 | 11939 | 1.78 | 1.89 | 9160 | 36869 | 100 |
|  | 99  | 2899 | 11817 | 1.89 | 1.84 | 9048 | 37778 | 100 |
|  | 100 | 2726 | 11972 | 1.73 | 1.88 | 9448 | 36799 | 100 |
|  | 99  | 2998 | 11305 | 1.85 | 1.84 | 9572 | 36144 | 100 |
|  | 99  | 3132 | 11419 | 1.92 | 1.77 | 9523 | 38205 | 100 |
|  | 100 | 2972 | 12653 | 1.85 | 1.95 | 9424 | 37194 | 100 |
|  | 99  | 2651 | 11880 | 1.73 | 1.83 | 9198 | 37736 | 100 |
|  | 99  | 3028 | 12140 | 1.85 | 1.91 | 9632 | 37237 | 100 |
|  | 98  | 2665 | 11456 | 1.76 | 1.81 | 9078 | 36838 | 100 |
|  | 99  | 2948 | 10962 | 1.83 | 1.74 | 9565 | 38240 | 100 |
|  | 99  | 2971 | 12849 | 1.85 | 1.93 | 9394 | 38649 | 100 |
|  | 100 | 2704 | 11837 | 1.74 | 1.81 | 9320 | 37705 | 100 |
|  | 98  | 2897 | 12153 | 1.77 | 1.85 | 9672 | 38134 | 100 |
|  | 100 | 3119 | 12337 | 1.90 | 1.87 | 9614 | 38134 | 100 |
|  | 100 | 2810 | 12194 | 1.81 | 1.87 | 8994 | 37479 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 99  | 2707 | 12430 | 1.69 | 1.91 | 9612 | 37769 | 100 |
|  | 98  | 2955 | 10993 | 1.85 | 1.74 | 9410 | 36834 | 100 |
|  | 99  | 3274 | 11837 | 1.99 | 1.84 | 9790 | 37365 | 100 |
|  | 98  | 2979 | 11237 | 1.92 | 1.75 | 9049 | 37650 | 100 |
|  | 99  | 3112 | 11529 | 1.89 | 1.84 | 9681 | 36454 | 100 |
|  | 100 | 3116 | 11601 | 1.93 | 1.80 | 9436 | 37878 | 100 |
|  | 99  | 2757 | 11546 | 1.81 | 1.78 | 9231 | 38015 | 100 |
|  | 99  | 2962 | 12005 | 1.86 | 1.84 | 9304 | 37612 | 100 |
|  | 99  | 2817 | 11667 | 1.83 | 1.82 | 9110 | 37452 | 100 |
|  | 99  | 2840 | 12332 | 1.84 | 1.89 | 9222 | 37746 | 100 |
|  | 100 | 2896 | 11552 | 1.81 | 1.82 | 9399 | 37035 | 100 |
|  | 99  | 2872 | 12183 | 1.81 | 1.88 | 9359 | 37603 | 100 |
|  | 100 | 2910 | 12046 | 1.87 | 1.84 | 8987 | 37785 | 100 |
|  | 100 | 2912 | 11655 | 1.83 | 1.85 | 9537 | 37151 | 100 |
|  | 99  | 2915 | 12460 | 1.81 | 1.90 | 9485 | 37766 | 100 |
|  | 98  | 2868 | 11776 | 1.79 | 1.86 | 9469 | 36744 | 100 |
|  | 99  | 2915 | 11552 | 1.79 | 1.81 | 9620 | 36904 | 100 |
|  | 100 | 2829 | 11885 | 1.77 | 1.80 | 9628 | 38265 | 100 |
|  | 98  | 2928 | 11695 | 1.85 | 1.80 | 9355 | 37718 | 100 |
|  | 99  | 2870 | 11754 | 1.82 | 1.78 | 9421 | 38328 | 100 |
|  | 99  | 2897 | 11562 | 1.80 | 1.85 | 9526 | 36305 | 100 |
|  | 100 | 2937 | 11644 | 1.83 | 1.81 | 9695 | 37642 | 100 |
|  | 99  | 2708 | 11903 | 1.80 | 1.83 | 9048 | 38232 | 100 |
|  | 100 | 3006 | 11902 | 1.87 | 1.82 | 9429 | 37898 | 100 |
|  | 100 | 3008 | 11852 | 1.91 | 1.82 | 9299 | 38027 | 100 |
|  | 98  | 2918 | 12005 | 1.85 | 1.85 | 9226 | 37547 | 100 |
|  | 100 | 2971 | 11725 | 1.87 | 1.85 | 9408 | 36518 | 100 |
|  | 98  | 3053 | 11413 | 1.88 | 1.76 | 9552 | 38334 | 100 |
|  | 99  | 2966 | 11276 | 1.86 | 1.81 | 9538 | 36435 | 100 |
|  | 100 | 2781 | 11552 | 1.76 | 1.79 | 9452 | 38071 | 100 |
|  | 100 | 2977 | 12213 | 1.87 | 1.87 | 9366 | 37676 | 100 |
|  | 99  | 3013 | 11184 | 1.83 | 1.80 | 9603 | 36680 | 100 |
|  | 99  | 3020 | 12307 | 1.86 | 1.85 | 9543 | 38660 | 100 |
|  | 99  | 2988 | 11560 | 1.88 | 1.82 | 9314 | 37251 | 100 |
|  | 98  | 2941 | 11731 | 1.81 | 1.80 | 9505 | 37923 | 100 |
|  | 100 | 2898 | 12726 | 1.83 | 1.95 | 9366 | 37850 | 100 |
|  | 100 | 2918 | 12770 | 1.85 | 1.94 | 9356 | 37819 | 100 |
|  | 100 | 3020 | 12251 | 1.93 | 1.91 | 9276 | 37538 | 100 |
|  | 98  | 2892 | 12012 | 1.80 | 1.87 | 9557 | 37573 | 100 |
|  | 99  | 2791 | 12541 | 1.83 | 1.86 | 9004 | 38801 | 100 |
|  | 100 | 2893 | 11052 | 1.83 | 1.81 | 9422 | 36075 | 100 |
|  | 100 | 2856 | 11492 | 1.76 | 1.79 | 9658 | 37206 | 100 |
|  | 98  | 3206 | 11158 | 1.99 | 1.79 | 9387 | 36723 | 100 |
|  | 100 | 2922 | 11407 | 1.83 | 1.79 | 9444 | 37561 | 100 |
|  | 99  | 2752 | 11732 | 1.78 | 1.81 | 9405 | 38111 | 100 |
|  | 100 | 2846 | 11949 | 1.79 | 1.87 | 9406 | 37405 | 100 |
|  | 100 | 2725 | 11896 | 1.77 | 1.82 | 9319 | 37592 | 100 |
|  | 100 | 2931 | 11552 | 1.86 | 1.83 | 9209 | 36635 | 100 |
|  | 99  | 2830 | 11368 | 1.74 | 1.80 | 9800 | 37257 | 100 |
|  | 98  | 3008 | 10967 | 1.84 | 1.73 | 9746 | 37210 | 100 |
|  | 97  | 2988 | 12069 | 1.87 | 1.87 | 9333 | 37699 | 100 |
|  | 100 | 2688 | 12270 | 1.73 | 1.90 | 9295 | 37296 | 100 |
|  | 96  | 2671 | 12126 | 1.71 | 1.86 | 9301 | 37718 | 100 |
|  | 99  | 2801 | 11621 | 1.77 | 1.80 | 9547 | 37680 | 100 |
|  | 99  | 2909 | 11985 | 1.80 | 1.86 | 9599 | 37514 | 100 |
|  | 97  | 2732 | 11585 | 1.78 | 1.81 | 9143 | 37414 | 100 |
|  | 99  | 2910 | 11665 | 1.81 | 1.79 | 9704 | 37778 | 100 |
|  | 100 | 3016 | 11690 | 1.83 | 1.80 | 9664 | 37440 | 100 |
|  | 99  | 2773 | 11763 | 1.80 | 1.83 | 9145 | 37815 | 100 |
|  | 99  | 2946 | 10704 | 1.85 | 1.70 | 9453 | 37120 | 100 |
|  | 98  | 2770 | 12197 | 1.79 | 1.89 | 9094 | 36952 | 100 |
|  | 99  | 2965 | 12455 | 1.84 | 1.91 | 9491 | 37472 | 100 |
|  | 99  | 2847 | 11968 | 1.78 | 1.84 | 9488 | 37690 | 100 |
|  | 100 | 3034 | 12005 | 1.89 | 1.82 | 9465 | 37912 | 100 |
|  | 100 | 2752 | 12075 | 1.79 | 1.84 | 9097 | 37914 | 100 |
|  | 98  | 2848 | 11423 | 1.79 | 1.76 | 9507 | 38188 | 100 |
|  | 99  | 2792 | 12216 | 1.73 | 1.91 | 9657 | 36208 | 100 |
|  | 99  | 3047 | 12216 | 1.87 | 1.89 | 9402 | 36987 | 100 |
|  | 100 | 2665 | 11335 | 1.71 | 1.78 | 9293 | 36870 | 100 |
|  | 98  | 2946 | 11602 | 1.80 | 1.80 | 9718 | 37477 | 100 |
|  | 100 | 2985 | 12202 | 1.86 | 1.90 | 9377 | 37233 | 100 |
|  | 100 | 3031 | 12044 | 1.88 | 1.90 | 9435 | 36792 | 100 |
|  | 100 | 2920 | 11614 | 1.83 | 1.81 | 9514 | 37294 | 100 |
|  | 99  | 2837 | 10919 | 1.79 | 1.73 | 9431 | 37296 | 100 |
|  | 99  | 3081 | 10888 | 1.94 | 1.74 | 9279 | 37373 | 100 |
|  | 100 | 2967 | 11916 | 1.88 | 1.82 | 9352 | 38268 | 100 |
|  | 97  | 2958 | 11642 | 1.82 | 1.84 | 9454 | 36423 | 100 |
|  | 99  | 2886 | 11633 | 1.85 | 1.85 | 9202 | 36967 | 100 |
|  | 99  | 3018 | 11814 | 1.86 | 1.80 | 9455 | 38284 | 100 |
|  | 99  | 3007 | 11608 | 1.86 | 1.84 | 9565 | 36856 | 100 |
|  | 100 | 2671 | 11221 | 1.77 | 1.75 | 8906 | 37550 | 100 |
|  | 100 | 2988 | 11532 | 1.84 | 1.79 | 9646 | 37703 | 100 |
|  | 100 | 2935 | 11601 | 1.83 | 1.84 | 9360 | 36815 | 100 |
|  | 100 | 2692 | 11949 | 1.70 | 1.82 | 9609 | 38226 | 100 |
|  | 100 | 2904 | 12466 | 1.82 | 1.88 | 9349 | 38515 | 100 |
|  | 100 | 2917 | 11793 | 1.80 | 1.84 | 9773 | 37209 | 100 |
|  | 100 | 2799 | 12090 | 1.76 | 1.89 | 9471 | 36775 | 100 |
|  | 98  | 2828 | 11710 | 1.77 | 1.84 | 9469 | 37196 | 100 |
|  | 100 | 2827 | 11599 | 1.79 | 1.82 | 9415 | 37506 | 100 |
|  | 100 | 2537 | 12470 | 1.69 | 1.87 | 9458 | 38300 | 100 |
|  | 100 | 3001 | 12056 | 1.83 | 1.85 | 9515 | 37895 | 100 |
|  | 99  | 2923 | 11751 | 1.82 | 1.81 | 9426 | 37741 | 100 |
|  | 99  | 2951 | 11738 | 1.81 | 1.83 | 9752 | 37194 | 100 |
|  | 98  | 3017 | 10970 | 1.85 | 1.76 | 9339 | 36449 | 100 |
|  | 100 | 2931 | 11667 | 1.81 | 1.81 | 9619 | 37374 | 100 |

|     |      |       |      |      |       |       |     |
|-----|------|-------|------|------|-------|-------|-----|
| 98  | 3144 | 12157 | 1.94 | 1.84 | 9508  | 37731 | 100 |
| 99  | 2987 | 12114 | 1.86 | 1.90 | 9359  | 36847 | 100 |
| 100 | 2746 | 11439 | 1.76 | 1.79 | 9250  | 37194 | 100 |
| 100 | 2959 | 11952 | 1.84 | 1.81 | 9532  | 38514 | 100 |
| 97  | 2902 | 12169 | 1.87 | 1.83 | 9263  | 38518 | 100 |
| 100 | 2737 | 11270 | 1.77 | 1.83 | 9172  | 36448 | 100 |
| 99  | 2926 | 11919 | 1.81 | 1.86 | 9480  | 37046 | 100 |
| 98  | 3001 | 11897 | 1.82 | 1.85 | 9711  | 37113 | 100 |
| 100 | 2965 | 12155 | 1.84 | 1.87 | 9634  | 37325 | 100 |
| 100 | 2773 | 10979 | 1.79 | 1.74 | 9315  | 37292 | 100 |
| 98  | 2945 | 11350 | 1.84 | 1.77 | 9432  | 37955 | 100 |
| 98  | 3010 | 11989 | 1.86 | 1.85 | 9634  | 37386 | 100 |
| 100 | 2732 | 11711 | 1.73 | 1.83 | 9467  | 37671 | 100 |
| 99  | 2912 | 11309 | 1.83 | 1.79 | 9544  | 37153 | 100 |
| 99  | 3072 | 11771 | 1.90 | 1.81 | 9474  | 37475 | 100 |
| 100 | 3020 | 10869 | 1.87 | 1.73 | 9637  | 36845 | 100 |
| 98  | 2897 | 12043 | 1.80 | 1.84 | 9653  | 38352 | 100 |
| 100 | 2924 | 12575 | 1.85 | 1.91 | 9146  | 37684 | 100 |
| 98  | 2699 | 11319 | 1.72 | 1.81 | 9307  | 36784 | 100 |
| 98  | 2812 | 11856 | 1.75 | 1.83 | 9759  | 38005 | 100 |
| 99  | 3075 | 11656 | 1.86 | 1.83 | 9620  | 36518 | 100 |
| 98  | 2966 | 11545 | 1.80 | 1.81 | 9775  | 37369 | 100 |
| 99  | 2962 | 12566 | 1.82 | 1.89 | 9690  | 37975 | 100 |
| 100 | 2635 | 11827 | 1.72 | 1.80 | 9345  | 38215 | 100 |
| 99  | 2805 | 11339 | 1.77 | 1.80 | 9447  | 36685 | 100 |
| 99  | 2915 | 12827 | 1.86 | 1.91 | 9299  | 38484 | 100 |
| 100 | 2693 | 10955 | 1.73 | 1.79 | 9348  | 35872 | 100 |
| 99  | 2910 | 11604 | 1.79 | 1.79 | 9684  | 37570 | 100 |
| 99  | 2970 | 11332 | 1.82 | 1.80 | 9509  | 37189 | 100 |
| 100 | 2874 | 12035 | 1.77 | 1.85 | 9610  | 37562 | 100 |
| 98  | 2979 | 12601 | 1.83 | 1.88 | 9459  | 38976 | 100 |
| 98  | 2841 | 12592 | 1.83 | 1.92 | 9023  | 38075 | 100 |
| 98  | 2775 | 11893 | 1.78 | 1.85 | 9192  | 37263 | 100 |
| 99  | 2885 | 12025 | 1.78 | 1.85 | 9725  | 38025 | 100 |
| 99  | 3069 | 12266 | 1.86 | 1.89 | 9553  | 37353 | 100 |
| 100 | 2783 | 12419 | 1.78 | 1.88 | 9290  | 38248 | 100 |
| 97  | 2888 | 11649 | 1.80 | 1.86 | 9472  | 36000 | 100 |
| 100 | 2811 | 11180 | 1.75 | 1.78 | 9557  | 37121 | 100 |
| 100 | 3073 | 11978 | 1.93 | 1.83 | 9379  | 38192 | 100 |
| 100 | 2917 | 11796 | 1.86 | 1.85 | 9319  | 36935 | 100 |
| 99  | 2945 | 11597 | 1.84 | 1.80 | 9571  | 37440 | 100 |
| 100 | 2926 | 11913 | 1.83 | 1.83 | 9462  | 37856 | 100 |
| 100 | 2839 | 12051 | 1.78 | 1.83 | 9382  | 38424 | 100 |
| 100 | 2800 | 11707 | 1.84 | 1.78 | 9167  | 38614 | 100 |
| 100 | 2950 | 12223 | 1.82 | 1.87 | 9554  | 37959 | 100 |
| 99  | 2777 | 11945 | 1.77 | 1.84 | 9231  | 37949 | 100 |
| 100 | 2841 | 12062 | 1.75 | 1.85 | 9713  | 37780 | 100 |
| 98  | 2975 | 12555 | 1.85 | 1.93 | 9579  | 37707 | 100 |
| 97  | 2822 | 11923 | 1.76 | 1.90 | 9493  | 36690 | 100 |
| 100 | 3018 | 11949 | 1.93 | 1.82 | 9234  | 38324 | 100 |
| 100 | 2765 | 12157 | 1.73 | 1.86 | 9401  | 37280 | 100 |
| 100 | 3018 | 11659 | 1.84 | 1.82 | 9568  | 36993 | 100 |
| 100 | 2920 | 11911 | 1.86 | 1.83 | 9287  | 38051 | 100 |
| 99  | 2561 | 11912 | 1.68 | 1.85 | 9100  | 37098 | 100 |
| 98  | 3074 | 11808 | 1.86 | 1.86 | 9710  | 37021 | 100 |
| 99  | 3033 | 11492 | 1.84 | 1.79 | 9611  | 37340 | 100 |
| 100 | 2800 | 11923 | 1.77 | 1.84 | 9533  | 37690 | 100 |
| 100 | 2880 | 12293 | 1.76 | 1.91 | 9632  | 36636 | 100 |
| 99  | 2998 | 11282 | 1.85 | 1.80 | 9586  | 36624 | 100 |
| 99  | 3025 | 11096 | 1.88 | 1.77 | 9313  | 36751 | 100 |
| 98  | 2858 | 11981 | 1.82 | 1.82 | 9208  | 37927 | 100 |
| 100 | 2800 | 11137 | 1.79 | 1.76 | 9268  | 37008 | 100 |
| 99  | 2975 | 12135 | 1.84 | 1.84 | 9524  | 38544 | 100 |
| 99  | 2800 | 11733 | 1.79 | 1.85 | 9367  | 36891 | 100 |
| 100 | 3034 | 11735 | 1.85 | 1.81 | 9771  | 37577 | 100 |
| 100 | 2805 | 12166 | 1.74 | 1.90 | 9651  | 36884 | 100 |
| 100 | 2908 | 12081 | 1.82 | 1.90 | 9461  | 36605 | 100 |
| 98  | 2689 | 11752 | 1.77 | 1.81 | 9313  | 37277 | 100 |
| 100 | 3035 | 12372 | 1.85 | 1.88 | 9619  | 37850 | 100 |
| 98  | 3205 | 11562 | 1.90 | 1.79 | 9762  | 37952 | 100 |
| 98  | 2807 | 11902 | 1.81 | 1.84 | 9241  | 37533 | 100 |
| 100 | 2920 | 12738 | 1.85 | 1.90 | 9135  | 38140 | 100 |
| 98  | 2929 | 11989 | 1.84 | 1.81 | 9471  | 38719 | 100 |
| 98  | 2880 | 11625 | 1.79 | 1.81 | 9559  | 37049 | 100 |
| 99  | 3088 | 11747 | 1.84 | 1.84 | 10008 | 37161 | 100 |
| 99  | 2847 | 11931 | 1.79 | 1.87 | 9612  | 37351 | 100 |
| 100 | 2836 | 11409 | 1.74 | 1.80 | 9787  | 37362 | 100 |
| 100 | 3010 | 11857 | 1.87 | 1.83 | 9648  | 37589 | 100 |
| 98  | 2896 | 11851 | 1.82 | 1.82 | 9377  | 38082 | 100 |
| 99  | 2731 | 10785 | 1.74 | 1.71 | 9387  | 37039 | 100 |
| 100 | 2766 | 12189 | 1.78 | 1.87 | 9351  | 38502 | 100 |
| 100 | 2649 | 12148 | 1.73 | 1.89 | 9213  | 37162 | 100 |
| 100 | 3128 | 11405 | 1.90 | 1.83 | 9717  | 36524 | 100 |
| 98  | 2770 | 11846 | 1.75 | 1.85 | 9376  | 37610 | 100 |
| 99  | 2988 | 11358 | 1.84 | 1.77 | 9802  | 37961 | 100 |
| 99  | 2846 | 12165 | 1.84 | 1.86 | 9026  | 37834 | 100 |
| 100 | 3034 | 11737 | 1.82 | 1.85 | 9862  | 37100 | 100 |
| 100 | 2827 | 12300 | 1.81 | 1.89 | 9442  | 37534 | 100 |
| 100 | 2944 | 10837 | 1.79 | 1.74 | 9922  | 36944 | 100 |
| 95  | 3127 | 12270 | 1.90 | 1.88 | 9607  | 37644 | 100 |
| 100 | 2848 | 11697 | 1.81 | 1.79 | 9288  | 37866 | 100 |
| 100 | 2685 | 11776 | 1.67 | 1.83 | 9753  | 37471 | 100 |
| 100 | 2853 | 12541 | 1.81 | 1.96 | 9330  | 37241 | 100 |
| 98  | 2800 | 11208 | 1.77 | 1.80 | 9462  | 36214 | 100 |
| 100 | 2773 | 12050 | 1.72 | 1.81 | 9726  | 39449 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 98  | 3015 | 12024 | 1.85 | 1.83 | 9483 | 38108 |  | 100 |
|  | 98  | 2938 | 11899 | 1.83 | 1.84 | 9672 | 37603 |  | 100 |
|  | 100 | 3012 | 11986 | 1.87 | 1.85 | 9474 | 37476 |  | 100 |
|  | 100 | 2791 | 11710 | 1.80 | 1.86 | 9253 | 37238 |  | 100 |
|  | 100 | 2858 | 12061 | 1.79 | 1.84 | 9475 | 38034 |  | 100 |
|  | 100 | 2832 | 12102 | 1.80 | 1.91 | 9430 | 36792 |  | 100 |
|  | 98  | 2848 | 11530 | 1.79 | 1.79 | 9596 | 37351 |  | 100 |
|  | 99  | 2928 | 11774 | 1.79 | 1.82 | 9756 | 37398 |  | 100 |
|  | 100 | 2689 | 11884 | 1.76 | 1.88 | 9163 | 36777 |  | 100 |
|  | 99  | 2898 | 11264 | 1.84 | 1.75 | 9114 | 38073 |  | 100 |
|  | 99  | 3064 | 11791 | 1.89 | 1.77 | 9620 | 38917 |  | 100 |
|  | 100 | 3131 | 12182 | 1.92 | 1.92 | 9564 | 36972 |  | 100 |
|  | 97  | 2737 | 11718 | 1.76 | 1.87 | 9279 | 36720 |  | 100 |
|  | 100 | 3054 | 12181 | 1.90 | 1.87 | 9498 | 37518 |  | 100 |
|  | 99  | 2880 | 11870 | 1.79 | 1.86 | 9587 | 37447 |  | 100 |
|  | 100 | 3109 | 11566 | 1.86 | 1.77 | 9792 | 37779 |  | 100 |
|  | 98  | 3031 | 11970 | 1.84 | 1.88 | 9695 | 36688 |  | 100 |
|  | 100 | 2749 | 11818 | 1.78 | 1.84 | 9174 | 37249 |  | 100 |
|  | 99  | 2920 | 11836 | 1.84 | 1.84 | 9467 | 37368 |  | 100 |
|  | 99  | 2895 | 12040 | 1.84 | 1.90 | 9445 | 36850 |  | 100 |
|  | 98  | 3044 | 12128 | 1.88 | 1.86 | 9478 | 37755 |  | 100 |
|  | 100 | 2981 | 12442 | 1.85 | 1.91 | 9537 | 37462 |  | 100 |
|  | 100 | 2756 | 11291 | 1.77 | 1.78 | 9252 | 36834 |  | 100 |
|  | 99  | 2820 | 11598 | 1.78 | 1.75 | 9516 | 38683 |  | 100 |
|  | 100 | 2927 | 11801 | 1.83 | 1.83 | 9442 | 37876 |  | 100 |
|  | 99  | 2928 | 10494 | 1.84 | 1.67 | 9251 | 37033 |  | 100 |
|  | 99  | 2966 | 11410 | 1.82 | 1.76 | 9622 | 37910 |  | 100 |
|  | 100 | 2818 | 12337 | 1.84 | 1.84 | 9145 | 38334 |  | 100 |
|  | 99  | 2846 | 10968 | 1.78 | 1.77 | 9506 | 36533 |  | 100 |
|  | 98  | 2964 | 10980 | 1.84 | 1.76 | 9358 | 36976 |  | 100 |
|  | 99  | 3146 | 11813 | 1.89 | 1.83 | 9731 | 37385 |  | 100 |
|  | 100 | 2656 | 11281 | 1.70 | 1.80 | 9372 | 36369 |  | 100 |
|  | 100 | 2855 | 11653 | 1.80 | 1.84 | 9423 | 37317 |  | 100 |
|  | 99  | 2941 | 11657 | 1.86 | 1.82 | 9230 | 36906 |  | 100 |
|  | 98  | 2997 | 11398 | 1.84 | 1.83 | 9756 | 36122 |  | 100 |
|  | 100 | 2853 | 11294 | 1.81 | 1.74 | 9447 | 37589 |  | 100 |
|  | 99  | 2936 | 11913 | 1.84 | 1.86 | 9505 | 37382 |  | 100 |
|  | 100 | 2688 | 11746 | 1.71 | 1.82 | 9439 | 37784 |  | 100 |
|  | 99  | 2991 | 12357 | 1.87 | 1.85 | 9295 | 38072 |  | 100 |
|  | 100 | 2830 | 11916 | 1.82 | 1.90 | 9198 | 36217 |  | 100 |
|  | 97  | 3027 | 11944 | 1.87 | 1.82 | 9540 | 38210 |  | 100 |
|  | 99  | 3073 | 12601 | 1.93 | 1.91 | 9271 | 38007 |  | 100 |
|  | 100 | 2915 | 11437 | 1.82 | 1.78 | 9451 | 37728 |  | 100 |
|  | 99  | 3170 | 11920 | 1.94 | 1.85 | 9614 | 37330 |  | 100 |
|  | 99  | 2734 | 11757 | 1.77 | 1.83 | 9362 | 37706 |  | 100 |
|  | 100 | 3070 | 12122 | 1.86 | 1.81 | 9811 | 38838 |  | 100 |
|  | 100 | 3060 | 12106 | 1.88 | 1.85 | 9462 | 37735 |  | 100 |
|  | 100 | 2977 | 11718 | 1.86 | 1.89 | 9411 | 36265 |  | 100 |
|  | 99  | 2963 | 11838 | 1.80 | 1.80 | 9895 | 38221 |  | 100 |
|  | 99  | 2860 | 12309 | 1.80 | 1.89 | 9463 | 38086 |  | 100 |
|  | 99  | 2990 | 11244 | 1.84 | 1.78 | 9640 | 37509 |  | 100 |
|  | 100 | 2735 | 11476 | 1.73 | 1.80 | 9612 | 37318 |  | 100 |
|  | 100 | 3138 | 12288 | 1.96 | 1.89 | 9255 | 37988 |  | 100 |
|  | 100 | 2878 | 11131 | 1.83 | 1.80 | 9419 | 36563 |  | 100 |
|  | 100 | 2835 | 12369 | 1.78 | 1.88 | 9446 | 38447 |  | 100 |
|  | 99  | 2939 | 11833 | 1.89 | 1.83 | 9199 | 37332 |  | 100 |
|  | 100 | 2956 | 11074 | 1.88 | 1.79 | 9364 | 36744 |  | 100 |
|  | 100 | 2617 | 11555 | 1.72 | 1.82 | 9130 | 37383 |  | 100 |
|  | 99  | 2909 | 12144 | 1.84 | 1.84 | 9526 | 37917 |  | 100 |
|  | 100 | 2826 | 12130 | 1.83 | 1.86 | 9192 | 37505 |  | 100 |
|  | 99  | 2691 | 11408 | 1.77 | 1.77 | 8874 | 37550 |  | 100 |
|  | 100 | 2893 | 11095 | 1.79 | 1.74 | 9516 | 37707 |  | 100 |
|  | 99  | 3287 | 11900 | 1.97 | 1.81 | 9777 | 38320 |  | 100 |
|  | 98  | 2861 | 12614 | 1.81 | 1.94 | 9265 | 36814 |  | 100 |
|  | 100 | 2804 | 12412 | 1.74 | 1.93 | 9725 | 37377 |  | 100 |
|  | 100 | 2920 | 11998 | 1.90 | 1.87 | 9011 | 36829 |  | 100 |
|  | 100 | 3031 | 11354 | 1.89 | 1.75 | 9526 | 38274 |  | 100 |
|  | 98  | 3020 | 11463 | 1.82 | 1.77 | 9792 | 37818 |  | 100 |
|  | 100 | 3070 | 12778 | 1.89 | 1.90 | 9548 | 38818 |  | 100 |
|  | 99  | 2862 | 11144 | 1.83 | 1.81 | 9293 | 35963 |  | 100 |
|  | 100 | 2894 | 11173 | 1.83 | 1.76 | 9448 | 37101 |  | 100 |
|  | 100 | 2959 | 11115 | 1.82 | 1.76 | 9501 | 37332 |  | 100 |
|  | 99  | 2854 | 11998 | 1.79 | 1.85 | 9252 | 37200 |  | 100 |
|  | 98  | 2904 | 11602 | 1.79 | 1.80 | 9753 | 37979 |  | 100 |
|  | 100 | 2803 | 12362 | 1.73 | 1.87 | 9587 | 38212 |  | 100 |
|  | 100 | 2815 | 12672 | 1.82 | 1.97 | 9222 | 36991 |  | 100 |
|  | 98  | 3028 | 11562 | 1.89 | 1.76 | 9459 | 37956 |  | 100 |
|  | 100 | 2850 | 12387 | 1.84 | 1.91 | 9188 | 37323 |  | 100 |
|  | 99  | 2966 | 11652 | 1.83 | 1.87 | 9591 | 36100 |  | 100 |
|  | 100 | 3160 | 12149 | 1.90 | 1.82 | 9655 | 39028 |  | 100 |
|  | 100 | 2975 | 11752 | 1.85 | 1.82 | 9498 | 37645 |  | 100 |
|  | 100 | 2839 | 11626 | 1.81 | 1.81 | 9332 | 37342 |  | 100 |
|  | 99  | 2875 | 11365 | 1.75 | 1.77 | 9856 | 37448 |  | 100 |
|  | 100 | 3078 | 12218 | 1.90 | 1.83 | 9607 | 38652 |  | 100 |
|  | 100 | 2756 | 11468 | 1.78 | 1.79 | 9344 | 37407 |  | 100 |
|  | 100 | 2882 | 12241 | 1.84 | 1.87 | 9441 | 38061 |  | 100 |
|  | 100 | 2803 | 12075 | 1.74 | 1.86 | 9595 | 37398 |  | 100 |
|  | 99  | 3004 | 11829 | 1.86 | 1.80 | 9712 | 37920 |  | 100 |
|  | 100 | 2699 | 11514 | 1.74 | 1.81 | 9182 | 37153 |  | 100 |
|  | 99  | 2803 | 11678 | 1.78 | 1.80 | 9375 | 37973 |  | 100 |
|  | 100 | 3289 | 11477 | 1.99 | 1.78 | 9541 | 37810 |  | 100 |
|  | 99  | 2878 | 11210 | 1.85 | 1.78 | 9216 | 36982 |  | 100 |
|  | 99  | 2856 | 11985 | 1.81 | 1.81 | 9357 | 38203 |  | 100 |
|  | 100 | 3133 | 12470 | 1.93 | 1.91 | 9237 | 37148 |  | 100 |
|  | 100 | 2701 | 11480 | 1.73 | 1.82 | 9400 | 36325 |  | 100 |

|  |     |      |       |      |      |       |       |  |     |
|--|-----|------|-------|------|------|-------|-------|--|-----|
|  | 99  | 2605 | 10898 | 1.70 | 1.79 | 9398  | 36010 |  | 100 |
|  | 99  | 3021 | 11607 | 1.89 | 1.82 | 9651  | 37605 |  | 100 |
|  | 100 | 2866 | 11646 | 1.80 | 1.86 | 9467  | 35787 |  | 100 |
|  | 100 | 2836 | 11461 | 1.78 | 1.77 | 9670  | 37928 |  | 100 |
|  | 99  | 2950 | 12452 | 1.81 | 1.85 | 9704  | 38519 |  | 100 |
|  | 99  | 3036 | 12421 | 1.92 | 1.86 | 9177  | 38355 |  | 100 |
|  | 100 | 2701 | 11656 | 1.76 | 1.82 | 9022  | 37053 |  | 100 |
|  | 99  | 2849 | 11900 | 1.75 | 1.79 | 9598  | 39266 |  | 100 |
|  | 97  | 3170 | 12127 | 1.96 | 1.86 | 9406  | 38191 |  | 100 |
|  | 98  | 3010 | 11317 | 1.84 | 1.80 | 9536  | 36644 |  | 100 |
|  | 99  | 3135 | 11728 | 1.94 | 1.85 | 9283  | 37343 |  | 100 |
|  | 100 | 2870 | 11527 | 1.80 | 1.85 | 9373  | 36382 |  | 100 |
|  | 100 | 2856 | 11583 | 1.79 | 1.83 | 9596  | 37283 |  | 100 |
|  | 100 | 3127 | 11910 | 1.90 | 1.86 | 9605  | 37363 |  | 100 |
|  | 100 | 2827 | 11302 | 1.84 | 1.84 | 9031  | 36409 |  | 100 |
|  | 100 | 2957 | 11622 | 1.76 | 1.82 | 9919  | 37057 |  | 100 |
|  | 99  | 2911 | 12030 | 1.87 | 1.91 | 9140  | 36330 |  | 100 |
|  | 100 | 2805 | 12283 | 1.82 | 1.83 | 9181  | 38460 |  | 100 |
|  | 100 | 2858 | 12366 | 1.86 | 1.92 | 9182  | 37051 |  | 100 |
|  | 100 | 2876 | 11768 | 1.84 | 1.90 | 9410  | 35840 |  | 100 |
|  | 100 | 2864 | 11515 | 1.78 | 1.79 | 9683  | 37649 |  | 100 |
|  | 100 | 2847 | 12131 | 1.77 | 1.87 | 9600  | 37971 |  | 100 |
|  | 100 | 3078 | 12271 | 1.91 | 1.89 | 9398  | 37419 |  | 100 |
|  | 100 | 2760 | 11511 | 1.74 | 1.80 | 9519  | 37257 |  | 100 |
|  | 98  | 2962 | 11809 | 1.79 | 1.79 | 9792  | 38606 |  | 100 |
|  | 100 | 3201 | 11881 | 1.97 | 1.82 | 9479  | 37744 |  | 100 |
|  | 99  | 2866 | 11628 | 1.76 | 1.78 | 9675  | 38391 |  | 100 |
|  | 100 | 2996 | 12445 | 1.83 | 1.89 | 9663  | 38094 |  | 100 |
|  | 99  | 2679 | 11423 | 1.70 | 1.82 | 9357  | 36254 |  | 100 |
|  | 99  | 3053 | 11650 | 1.82 | 1.80 | 9889  | 37810 |  | 100 |
|  | 100 | 2961 | 11901 | 1.87 | 1.87 | 9248  | 36854 |  | 100 |
|  | 98  | 2999 | 11770 | 1.82 | 1.81 | 9742  | 37837 |  | 100 |
|  | 100 | 2933 | 12639 | 1.86 | 1.92 | 9234  | 37524 |  | 100 |
|  | 100 | 2948 | 12432 | 1.83 | 1.90 | 9538  | 37610 |  | 100 |
|  | 100 | 3016 | 12032 | 1.85 | 1.86 | 9598  | 37234 |  | 100 |
|  | 99  | 3034 | 11775 | 1.83 | 1.87 | 9709  | 36991 |  | 100 |
|  | 100 | 2852 | 11953 | 1.81 | 1.82 | 9367  | 38117 |  | 100 |
|  | 99  | 2869 | 11621 | 1.75 | 1.75 | 9724  | 39040 |  | 100 |
|  | 100 | 2928 | 11427 | 1.86 | 1.84 | 9339  | 35956 |  | 100 |
|  | 99  | 2704 | 12109 | 1.73 | 1.86 | 9333  | 37520 |  | 100 |
|  | 100 | 3070 | 12172 | 1.88 | 1.87 | 9624  | 38070 |  | 100 |
|  | 100 | 2997 | 11972 | 1.89 | 1.85 | 9195  | 37865 |  | 100 |
|  | 100 | 3151 | 11894 | 1.91 | 1.82 | 9529  | 37986 |  | 100 |
|  | 100 | 2792 | 10990 | 1.78 | 1.77 | 9362  | 36261 |  | 100 |
|  | 98  | 2854 | 11366 | 1.78 | 1.78 | 9514  | 37470 |  | 100 |
|  | 99  | 3131 | 12117 | 1.94 | 1.87 | 9309  | 37326 |  | 100 |
|  | 100 | 2948 | 11706 | 1.85 | 1.89 | 9448  | 36659 |  | 100 |
|  | 100 | 2664 | 12230 | 1.73 | 1.88 | 9401  | 37745 |  | 100 |
|  | 99  | 2794 | 11770 | 1.73 | 1.75 | 9753  | 39417 |  | 100 |
|  | 100 | 2922 | 12044 | 1.85 | 1.88 | 9352  | 37410 |  | 100 |
|  | 98  | 2774 | 11859 | 1.77 | 1.80 | 9246  | 38525 |  | 100 |
|  | 100 | 2959 | 11565 | 1.86 | 1.81 | 9305  | 36863 |  | 100 |
|  | 99  | 2676 | 11345 | 1.73 | 1.77 | 9234  | 37591 |  | 100 |
|  | 100 | 2871 | 11593 | 1.80 | 1.78 | 9414  | 38091 |  | 100 |
|  | 100 | 3120 | 12586 | 1.86 | 1.90 | 10030 | 38272 |  | 100 |
|  | 99  | 2628 | 11279 | 1.68 | 1.79 | 9431  | 36644 |  | 100 |
|  | 98  | 2827 | 11389 | 1.76 | 1.78 | 9397  | 37277 |  | 100 |
|  | 100 | 3017 | 11297 | 1.88 | 1.77 | 9483  | 37439 |  | 100 |
|  | 98  | 2729 | 11751 | 1.74 | 1.82 | 9456  | 37910 |  | 100 |
|  | 100 | 3294 | 12234 | 1.96 | 1.85 | 9901  | 38487 |  | 100 |
|  | 99  | 2991 | 11858 | 1.92 | 1.86 | 9168  | 37164 |  | 100 |
|  | 100 | 2808 | 11102 | 1.82 | 1.77 | 9291  | 36871 |  | 100 |
|  | 100 | 2952 | 11754 | 1.83 | 1.79 | 9465  | 38544 |  | 100 |
|  | 99  | 3000 | 11850 | 1.88 | 1.85 | 9386  | 37137 |  | 100 |
|  | 99  | 2756 | 11858 | 1.76 | 1.82 | 9342  | 37497 |  | 100 |
|  | 99  | 2999 | 10794 | 1.91 | 1.79 | 9190  | 35952 |  | 100 |
|  | 100 | 2862 | 11143 | 1.79 | 1.78 | 9450  | 36688 |  | 100 |
|  | 100 | 3016 | 11913 | 1.87 | 1.86 | 9502  | 37525 |  | 100 |
|  | 100 | 2761 | 11515 | 1.78 | 1.82 | 9294  | 37001 |  | 100 |
|  | 99  | 2845 | 11668 | 1.77 | 1.78 | 9411  | 38617 |  | 100 |
|  | 100 | 3087 | 12364 | 1.90 | 1.84 | 9595  | 39067 |  | 100 |
|  | 100 | 2883 | 12848 | 1.86 | 1.94 | 9251  | 38120 |  | 100 |
|  | 100 | 2980 | 12059 | 1.88 | 1.84 | 9397  | 37527 |  | 100 |
|  | 99  | 2893 | 11521 | 1.83 | 1.85 | 9398  | 36416 |  | 100 |
|  | 99  | 2926 | 11493 | 1.82 | 1.80 | 9622  | 36973 |  | 100 |
|  | 100 | 2834 | 12772 | 1.79 | 1.95 | 9388  | 37609 |  | 100 |
|  | 100 | 2945 | 10929 | 1.83 | 1.75 | 9378  | 37252 |  | 100 |
|  | 100 | 2980 | 12243 | 1.90 | 1.87 | 9247  | 38065 |  | 100 |
|  | 100 | 3090 | 11410 | 1.91 | 1.81 | 9529  | 37110 |  | 100 |
|  | 100 | 2796 | 11353 | 1.76 | 1.77 | 9455  | 37760 |  | 100 |
|  | 100 | 2862 | 11875 | 1.82 | 1.87 | 9271  | 36753 |  | 100 |
|  | 99  | 2679 | 11612 | 1.73 | 1.83 | 9255  | 36932 |  | 100 |
|  | 100 | 2888 | 12107 | 1.80 | 1.85 | 9473  | 37756 |  | 100 |
|  | 100 | 2851 | 11625 | 1.85 | 1.83 | 9150  | 36758 |  | 100 |
|  | 98  | 2629 | 11376 | 1.69 | 1.80 | 9360  | 37390 |  | 100 |
|  | 99  | 3047 | 11917 | 1.90 | 1.85 | 9326  | 37491 |  | 100 |
|  | 99  | 2899 | 11200 | 1.84 | 1.79 | 9277  | 36529 |  | 100 |
|  | 100 | 2926 | 12255 | 1.82 | 1.89 | 9409  | 36951 |  | 100 |
|  | 100 | 2788 | 12050 | 1.81 | 1.87 | 9342  | 37245 |  | 100 |
|  | 100 | 3128 | 11446 | 1.91 | 1.77 | 9508  | 37916 |  | 100 |
|  | 99  | 3029 | 11979 | 1.87 | 1.85 | 9445  | 37447 |  | 100 |
|  | 98  | 2768 | 11441 | 1.74 | 1.81 | 9528  | 37068 |  | 100 |
|  | 100 | 2904 | 12546 | 1.79 | 1.91 | 9754  | 38124 |  | 100 |
|  | 100 | 2840 | 11479 | 1.82 | 1.80 | 9112  | 37269 |  | 100 |
|  | 99  | 2871 | 12025 | 1.80 | 1.86 | 9378  | 37471 |  | 100 |

|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2531 | 11786 | 1.65 | 1.85 | 9249 | 36830 | 100 |
| 99  | 3016 | 11290 | 1.86 | 1.79 | 9556 | 36639 | 100 |
| 100 | 3254 | 12343 | 1.93 | 1.87 | 9792 | 37817 | 100 |
| 100 | 2899 | 12371 | 1.83 | 1.91 | 9411 | 37020 | 100 |
| 100 | 2683 | 11205 | 1.71 | 1.80 | 9374 | 36434 | 100 |
| 100 | 2931 | 12597 | 1.83 | 1.87 | 9415 | 38532 | 100 |
| 100 | 2960 | 11942 | 1.85 | 1.88 | 9493 | 36697 | 100 |
| 99  | 2897 | 11529 | 1.79 | 1.76 | 9575 | 38839 | 100 |
| 99  | 3142 | 11825 | 1.92 | 1.84 | 9630 | 37559 | 100 |
| 100 | 2890 | 12321 | 1.84 | 1.90 | 9174 | 37450 | 100 |
| 100 | 3008 | 12016 | 1.81 | 1.82 | 9945 | 38324 | 100 |
| 98  | 2855 | 11848 | 1.81 | 1.86 | 9484 | 36630 | 100 |
| 100 | 2894 | 11350 | 1.84 | 1.80 | 9343 | 36619 | 100 |
| 100 | 2898 | 12293 | 1.82 | 1.83 | 9441 | 38633 | 100 |
| 99  | 2949 | 11591 | 1.92 | 1.87 | 9194 | 36441 | 100 |
| 100 | 2828 | 11884 | 1.76 | 1.82 | 9426 | 38049 | 100 |
| 100 | 2890 | 11989 | 1.82 | 1.80 | 9387 | 38853 | 100 |
| 100 | 2841 | 11989 | 1.80 | 1.85 | 9318 | 37488 | 100 |
| 100 | 3136 | 12212 | 1.86 | 1.87 | 9853 | 37232 | 100 |
| 99  | 2941 | 12277 | 1.90 | 1.85 | 9358 | 38730 | 100 |
| 100 | 2830 | 11906 | 1.83 | 1.85 | 9193 | 37097 | 100 |
| 100 | 2822 | 12109 | 1.81 | 1.85 | 9254 | 37946 | 100 |
| 100 | 2813 | 12395 | 1.80 | 1.93 | 9124 | 37198 | 100 |
| 100 | 2766 | 11770 | 1.73 | 1.78 | 9624 | 38598 | 100 |
| 100 | 3092 | 11643 | 1.92 | 1.86 | 9316 | 36264 | 100 |
| 100 | 2706 | 11153 | 1.74 | 1.80 | 9446 | 36369 | 100 |
| 99  | 2753 | 11399 | 1.77 | 1.75 | 9364 | 37952 | 100 |
| 99  | 2954 | 11183 | 1.89 | 1.78 | 9020 | 36706 | 100 |
| 98  | 2790 | 11343 | 1.74 | 1.77 | 9510 | 37543 | 100 |
| 100 | 3363 | 12003 | 1.99 | 1.87 | 9727 | 36908 | 100 |
| 100 | 2891 | 11524 | 1.78 | 1.85 | 9569 | 36367 | 100 |
| 99  | 2830 | 11103 | 1.79 | 1.75 | 9404 | 37702 | 100 |
| 100 | 2893 | 12064 | 1.84 | 1.88 | 9378 | 36751 | 100 |
| 96  | 2983 | 11432 | 1.90 | 1.75 | 9290 | 38060 | 100 |
| 100 | 2842 | 12246 | 1.82 | 1.85 | 9269 | 38221 | 100 |
| 100 | 2870 | 11701 | 1.83 | 1.79 | 9398 | 38095 | 100 |
| 100 | 2785 | 12253 | 1.77 | 1.88 | 9426 | 37192 | 100 |
| 100 | 2902 | 11535 | 1.81 | 1.82 | 9553 | 37307 | 100 |
| 100 | 2976 | 11632 | 1.78 | 1.80 | 9813 | 37630 | 100 |
| 99  | 2762 | 11344 | 1.77 | 1.82 | 9273 | 36737 | 100 |
| 100 | 2988 | 11340 | 1.80 | 1.79 | 9817 | 36992 | 100 |
| 100 | 3078 | 12252 | 1.93 | 1.87 | 9421 | 38284 | 100 |
| 97  | 2881 | 11267 | 1.82 | 1.79 | 9232 | 36675 | 100 |
| 100 | 2950 | 11857 | 1.85 | 1.85 | 9448 | 37139 | 100 |
| 100 | 2728 | 12020 | 1.76 | 1.81 | 9286 | 37786 | 100 |
| 99  | 3033 | 11458 | 1.86 | 1.76 | 9659 | 38936 | 100 |
| 100 | 2848 | 11420 | 1.81 | 1.82 | 9126 | 36671 | 100 |
| 99  | 2677 | 11659 | 1.71 | 1.84 | 9565 | 36486 | 100 |
| 99  | 2860 | 11632 | 1.78 | 1.83 | 9536 | 37035 | 100 |
| 98  | 3049 | 11539 | 1.85 | 1.80 | 9627 | 37268 | 100 |
| 100 | 2994 | 11711 | 1.86 | 1.83 | 9472 | 36748 | 100 |
| 99  | 2951 | 11595 | 1.84 | 1.78 | 9349 | 37718 | 100 |
| 100 | 3009 | 11573 | 1.85 | 1.82 | 9509 | 36976 | 100 |
| 99  | 2995 | 11011 | 1.85 | 1.77 | 9458 | 36900 | 100 |
| 98  | 2887 | 11342 | 1.82 | 1.79 | 9377 | 36919 | 100 |
| 98  | 2979 | 12054 | 1.83 | 1.84 | 9697 | 37760 | 100 |
| 100 | 2803 | 11753 | 1.78 | 1.85 | 9286 | 37166 | 100 |
| 100 | 2980 | 11608 | 1.82 | 1.81 | 9773 | 37182 | 100 |
| 99  | 2868 | 11464 | 1.80 | 1.80 | 9334 | 37424 | 100 |
| 99  | 2882 | 11692 | 1.80 | 1.79 | 9409 | 38027 | 100 |
| 99  | 2814 | 11797 | 1.80 | 1.84 | 9376 | 37502 | 100 |
| 99  | 2947 | 11645 | 1.82 | 1.81 | 9556 | 37605 | 100 |
| 98  | 2830 | 11075 | 1.80 | 1.75 | 9366 | 37883 | 100 |
| 100 | 2998 | 11643 | 1.82 | 1.82 | 9560 | 37454 | 100 |
| 100 | 2682 | 11186 | 1.75 | 1.75 | 9305 | 37719 | 100 |
| 100 | 2972 | 11820 | 1.87 | 1.82 | 9319 | 37434 | 100 |
| 99  | 2818 | 11992 | 1.83 | 1.86 | 9292 | 37423 | 100 |
| 100 | 2798 | 12136 | 1.79 | 1.86 | 9526 | 38379 | 100 |
| 99  | 2792 | 11473 | 1.80 | 1.81 | 9166 | 37035 | 100 |
| 100 | 2993 | 11280 | 1.84 | 1.77 | 9616 | 37049 | 100 |
| 98  | 3049 | 11563 | 1.89 | 1.78 | 9386 | 37741 | 100 |
| 100 | 3166 | 12079 | 1.90 | 1.88 | 9797 | 37674 | 100 |
| 99  | 3157 | 11432 | 1.93 | 1.80 | 9465 | 37369 | 100 |
| 100 | 3165 | 11832 | 1.90 | 1.86 | 9690 | 36759 | 100 |
| 98  | 3109 | 10865 | 1.89 | 1.73 | 9487 | 37012 | 100 |
| 99  | 2999 | 11460 | 1.88 | 1.79 | 9418 | 38136 | 100 |
| 100 | 2879 | 12259 | 1.86 | 1.87 | 9260 | 37778 | 100 |
| 100 | 2824 | 12186 | 1.76 | 1.87 | 9537 | 37309 | 100 |
| 98  | 2911 | 12071 | 1.86 | 1.85 | 9376 | 37931 | 100 |
| 99  | 2930 | 11863 | 1.83 | 1.85 | 9511 | 36915 | 100 |
| 98  | 3195 | 11943 | 1.96 | 1.83 | 9534 | 38082 | 100 |
| 99  | 2828 | 11359 | 1.78 | 1.82 | 9369 | 36644 | 100 |
| 99  | 2746 | 10954 | 1.70 | 1.77 | 9673 | 36134 | 100 |
| 100 | 2728 | 11616 | 1.76 | 1.78 | 9346 | 38275 | 100 |
| 100 | 2901 | 11707 | 1.85 | 1.80 | 9331 | 37778 | 100 |
| 100 | 2928 | 11863 | 1.81 | 1.84 | 9524 | 37062 | 100 |
| 99  | 3006 | 11823 | 1.85 | 1.88 | 9644 | 36966 | 100 |
| 98  | 3050 | 11284 | 1.84 | 1.79 | 9667 | 36759 | 100 |
| 100 | 2924 | 11441 | 1.79 | 1.81 | 9639 | 36583 | 100 |
| 99  | 3135 | 12003 | 1.91 | 1.83 | 9488 | 37762 | 100 |
| 99  | 2899 | 11789 | 1.82 | 1.83 | 9226 | 37364 | 100 |
| 100 | 2856 | 11539 | 1.78 | 1.82 | 9494 | 37389 | 100 |
| 99  | 3007 | 11779 | 1.90 | 1.79 | 9129 | 38761 | 100 |
| 100 | 2987 | 11977 | 1.86 | 1.85 | 9382 | 37249 | 100 |
| 97  | 2868 | 11701 | 1.78 | 1.87 | 9677 | 36634 | 100 |

|  |     |      |       |      |      |      |       |     |
|--|-----|------|-------|------|------|------|-------|-----|
|  | 98  | 3000 | 12268 | 1.85 | 1.89 | 9702 | 37464 | 100 |
|  | 100 | 2862 | 11522 | 1.79 | 1.79 | 9733 | 37534 | 100 |
|  | 99  | 2911 | 11766 | 1.88 | 1.83 | 9266 | 37120 | 100 |
|  | 99  | 2917 | 11444 | 1.85 | 1.79 | 9643 | 37609 | 100 |
|  | 99  | 3053 | 12028 | 1.88 | 1.86 | 9497 | 37719 | 100 |
|  | 100 | 2830 | 12096 | 1.81 | 1.86 | 9361 | 38063 | 100 |
|  | 99  | 2800 | 11880 | 1.78 | 1.85 | 9436 | 37256 | 100 |
|  | 100 | 2902 | 12388 | 1.85 | 1.87 | 9170 | 37905 | 100 |
|  | 97  | 2917 | 11516 | 1.82 | 1.81 | 9444 | 37073 | 100 |
|  | 99  | 3170 | 11482 | 1.88 | 1.80 | 9687 | 37780 | 100 |
|  | 98  | 2986 | 12043 | 1.83 | 1.86 | 9629 | 37380 | 100 |
|  | 100 | 3166 | 11461 | 1.93 | 1.77 | 9625 | 37988 | 100 |
|  | 99  | 3046 | 10907 | 1.84 | 1.74 | 9713 | 37444 | 100 |
|  | 98  | 2922 | 11957 | 1.90 | 1.84 | 9065 | 37892 | 100 |
|  | 98  | 3008 | 10884 | 1.89 | 1.71 | 9408 | 37904 | 100 |
|  | 96  | 3229 | 11620 | 1.95 | 1.84 | 9651 | 36690 | 100 |
|  | 100 | 2889 | 11268 | 1.79 | 1.78 | 9439 | 37187 | 100 |
|  | 100 | 2803 | 12125 | 1.80 | 1.84 | 9650 | 38600 | 100 |
|  | 100 | 2950 | 12260 | 1.84 | 1.89 | 9387 | 37269 | 100 |
|  | 100 | 2850 | 12200 | 1.84 | 1.87 | 9146 | 37426 | 100 |
|  | 98  | 3014 | 11338 | 1.87 | 1.77 | 9742 | 37275 | 100 |
|  | 99  | 2898 | 11527 | 1.78 | 1.83 | 9838 | 37087 | 100 |
|  | 100 | 3163 | 11700 | 1.92 | 1.80 | 9594 | 38189 | 100 |
|  | 100 | 2862 | 11970 | 1.80 | 1.83 | 9366 | 37836 | 100 |
|  | 99  | 2770 | 12156 | 1.77 | 1.85 | 9398 | 37487 | 100 |
|  | 100 | 2789 | 11704 | 1.80 | 1.83 | 9280 | 37072 | 100 |
|  | 99  | 3007 | 11817 | 1.82 | 1.84 | 9699 | 37673 | 100 |
|  | 99  | 3144 | 11493 | 1.90 | 1.81 | 9490 | 37252 | 100 |
|  | 97  | 3008 | 12436 | 1.92 | 1.90 | 9141 | 37353 | 100 |
|  | 99  | 3084 | 11952 | 1.92 | 1.83 | 9463 | 38132 | 100 |
|  | 99  | 3051 | 11460 | 1.89 | 1.78 | 9476 | 38232 | 100 |
|  | 100 | 2992 | 11748 | 1.89 | 1.80 | 9156 | 38070 | 100 |
|  | 99  | 2998 | 12054 | 1.84 | 1.82 | 9628 | 38496 | 100 |
|  | 100 | 2930 | 11184 | 1.81 | 1.76 | 9607 | 36977 | 100 |
|  | 100 | 3104 | 11938 | 1.91 | 1.84 | 9367 | 37794 | 100 |
|  | 100 | 2937 | 12035 | 1.82 | 1.85 | 9545 | 37460 | 100 |
|  | 99  | 2663 | 11523 | 1.69 | 1.79 | 9370 | 37700 | 100 |
|  | 99  | 3056 | 11603 | 1.85 | 1.79 | 9787 | 37971 | 100 |
|  | 100 | 2935 | 12182 | 1.82 | 1.86 | 9388 | 37474 | 100 |
|  | 99  | 2782 | 11769 | 1.78 | 1.83 | 9344 | 37762 | 100 |
|  | 100 | 2934 | 11729 | 1.81 | 1.86 | 9486 | 36748 | 100 |
|  | 99  | 3124 | 11683 | 1.87 | 1.81 | 9757 | 37571 | 100 |
|  | 99  | 2784 | 12743 | 1.75 | 1.91 | 9640 | 38285 | 100 |
|  | 100 | 2962 | 12270 | 1.81 | 1.87 | 9681 | 37844 | 100 |
|  | 99  | 3073 | 12442 | 1.87 | 1.89 | 9545 | 37761 | 100 |
|  | 96  | 2810 | 11267 | 1.81 | 1.79 | 9420 | 36840 | 100 |
|  | 100 | 3005 | 11514 | 1.84 | 1.79 | 9576 | 37300 | 100 |
|  | 99  | 2949 | 12185 | 1.81 | 1.87 | 9722 | 37602 | 100 |
|  | 98  | 2759 | 11599 | 1.77 | 1.82 | 9367 | 37962 | 100 |
|  | 100 | 3075 | 12098 | 1.85 | 1.83 | 9728 | 38427 | 100 |
|  | 100 | 2928 | 12608 | 1.87 | 1.91 | 9278 | 37285 | 100 |
|  | 100 | 2712 | 12062 | 1.77 | 1.85 | 9290 | 37986 | 100 |
|  | 99  | 2735 | 12486 | 1.74 | 1.90 | 9415 | 37938 | 100 |
|  | 99  | 2961 | 12221 | 1.84 | 1.88 | 9540 | 37907 | 100 |
|  | 97  | 2998 | 11282 | 1.88 | 1.78 | 9547 | 37823 | 100 |
|  | 98  | 3040 | 11548 | 1.89 | 1.80 | 9415 | 37706 | 100 |
|  | 100 | 2902 | 11848 | 1.84 | 1.83 | 9217 | 37713 | 100 |
|  | 100 | 3079 | 12329 | 1.91 | 1.86 | 9293 | 38628 | 100 |
|  | 99  | 2898 | 11457 | 1.82 | 1.78 | 9362 | 38319 | 100 |
|  | 100 | 2809 | 12578 | 1.80 | 1.91 | 9333 | 38177 | 100 |
|  | 100 | 2867 | 11968 | 1.79 | 1.86 | 9614 | 37589 | 100 |
|  | 97  | 3103 | 11889 | 1.90 | 1.89 | 9499 | 36515 | 100 |
|  | 99  | 2933 | 11556 | 1.81 | 1.83 | 9459 | 36663 | 100 |
|  | 100 | 2839 | 11438 | 1.82 | 1.81 | 9348 | 37433 | 100 |
|  | 100 | 2808 | 12124 | 1.77 | 1.86 | 9551 | 37825 | 100 |
|  | 99  | 3211 | 12673 | 1.93 | 1.92 | 9679 | 38122 | 100 |
|  | 100 | 2870 | 12011 | 1.80 | 1.88 | 9387 | 37135 | 100 |
|  | 99  | 2790 | 11659 | 1.78 | 1.81 | 9408 | 37390 | 100 |
|  | 100 | 2889 | 11142 | 1.84 | 1.78 | 9193 | 36923 | 100 |
|  | 99  | 2786 | 11350 | 1.81 | 1.76 | 9124 | 37846 | 100 |
|  | 100 | 3028 | 11878 | 1.85 | 1.79 | 9563 | 38715 | 100 |
|  | 100 | 2932 | 11970 | 1.88 | 1.83 | 9192 | 38145 | 100 |
|  | 99  | 2875 | 11721 | 1.86 | 1.82 | 9279 | 37768 | 100 |
|  | 100 | 2892 | 11480 | 1.90 | 1.74 | 9047 | 38589 | 100 |
|  | 100 | 3022 | 12287 | 1.87 | 1.89 | 9507 | 37304 | 100 |
|  | 98  | 2898 | 11263 | 1.78 | 1.77 | 9452 | 37827 | 100 |
|  | 100 | 2938 | 11993 | 1.84 | 1.84 | 9448 | 37714 | 100 |
|  | 100 | 2987 | 12016 | 1.85 | 1.84 | 9598 | 37702 | 100 |
|  | 100 | 2849 | 12197 | 1.78 | 1.85 | 9322 | 37697 | 100 |
|  | 98  | 2720 | 12320 | 1.76 | 1.88 | 9276 | 38076 | 100 |
|  | 100 | 2749 | 11891 | 1.75 | 1.86 | 9377 | 36727 | 100 |
|  | 99  | 2941 | 11976 | 1.84 | 1.84 | 9522 | 37561 | 100 |
|  | 97  | 3010 | 11522 | 1.87 | 1.80 | 9460 | 37389 | 100 |
|  | 100 | 2726 | 11492 | 1.69 | 1.82 | 9538 | 36626 | 100 |
|  | 99  | 3012 | 11927 | 1.86 | 1.84 | 9465 | 37643 | 100 |
|  | 98  | 3106 | 11402 | 1.89 | 1.77 | 9483 | 37446 | 100 |
|  | 99  | 2913 | 11678 | 1.81 | 1.80 | 9562 | 38080 | 100 |
|  | 100 | 2838 | 11940 | 1.82 | 1.84 | 9340 | 37336 | 100 |
|  | 99  | 2710 | 12144 | 1.74 | 1.87 | 9348 | 37716 | 100 |
|  | 99  | 2922 | 11719 | 1.89 | 1.81 | 9210 | 37513 | 100 |
|  | 99  | 2880 | 11696 | 1.83 | 1.84 | 9402 | 36951 | 100 |
|  | 100 | 2863 | 12473 | 1.80 | 1.88 | 9536 | 38285 | 100 |
|  | 97  | 3022 | 12006 | 1.89 | 1.88 | 9345 | 37239 | 100 |
|  | 99  | 2706 | 11288 | 1.70 | 1.76 | 9576 | 37595 | 100 |
|  | 100 | 2845 | 11734 | 1.79 | 1.83 | 9280 | 37110 | 100 |

|  |     |      |       |      |      |      |       |  |     |
|--|-----|------|-------|------|------|------|-------|--|-----|
|  | 100 | 2890 | 12613 | 1.75 | 1.95 | 9866 | 37232 |  | 100 |
|  | 98  | 2966 | 11809 | 1.84 | 1.87 | 9310 | 36973 |  | 100 |
|  | 99  | 2821 | 11428 | 1.77 | 1.80 | 9371 | 37233 |  | 100 |
|  | 99  | 3109 | 11536 | 1.90 | 1.81 | 9618 | 37207 |  | 100 |
|  | 98  | 2980 | 11875 | 1.88 | 1.84 | 9355 | 37700 |  | 100 |
|  | 100 | 2768 | 12180 | 1.77 | 1.85 | 9283 | 37973 |  | 100 |
|  | 100 | 3033 | 11973 | 1.89 | 1.87 | 9442 | 37833 |  | 100 |
|  | 100 | 2693 | 11444 | 1.70 | 1.80 | 9493 | 36903 |  | 100 |
|  | 99  | 2928 | 11645 | 1.80 | 1.81 | 9513 | 37394 |  | 100 |
|  | 99  | 3078 | 11442 | 1.91 | 1.78 | 9528 | 37742 |  | 100 |
|  | 99  | 2910 | 11239 | 1.80 | 1.78 | 9710 | 36826 |  | 100 |
|  | 98  | 2767 | 12071 | 1.73 | 1.84 | 9660 | 37817 |  | 100 |
|  | 100 | 2888 | 11589 | 1.80 | 1.80 | 9649 | 37994 |  | 100 |
|  | 100 | 2986 | 11568 | 1.87 | 1.82 | 9229 | 37482 |  | 100 |
|  | 100 | 3060 | 12694 | 1.90 | 1.92 | 9350 | 37916 |  | 100 |
|  | 99  | 2899 | 11609 | 1.81 | 1.80 | 9419 | 37426 |  | 100 |
|  | 100 | 2807 | 11852 | 1.75 | 1.84 | 9506 | 37061 |  | 100 |
|  | 100 | 2868 | 12958 | 1.83 | 1.95 | 9233 | 37582 |  | 100 |
|  | 100 | 2779 | 12095 | 1.74 | 1.87 | 9527 | 37308 |  | 100 |
|  | 98  | 3047 | 11203 | 1.88 | 1.78 | 9497 | 36630 |  | 100 |
|  | 97  | 3009 | 11644 | 1.86 | 1.85 | 9527 | 36821 |  | 100 |
|  | 100 | 2984 | 11704 | 1.84 | 1.84 | 9358 | 37330 |  | 100 |
|  | 100 | 3151 | 11804 | 1.93 | 1.85 | 9545 | 37086 |  | 100 |
|  | 99  | 3150 | 10676 | 1.91 | 1.71 | 9634 | 38059 |  | 100 |
|  | 100 | 2815 | 12024 | 1.81 | 1.88 | 9477 | 37249 |  | 100 |
|  | 100 | 2853 | 12245 | 1.81 | 1.84 | 9444 | 38540 |  | 100 |
|  | 100 | 2841 | 12052 | 1.78 | 1.88 | 9549 | 36971 |  | 100 |
|  | 100 | 3007 | 11451 | 1.86 | 1.80 | 9301 | 36510 |  | 100 |
|  | 99  | 2901 | 12576 | 1.84 | 1.94 | 9397 | 37136 |  | 100 |
|  | 99  | 2946 | 12003 | 1.85 | 1.89 | 9392 | 36969 |  | 100 |
|  | 98  | 2856 | 12582 | 1.78 | 1.91 | 9572 | 37699 |  | 100 |
|  | 98  | 3105 | 11902 | 1.91 | 1.86 | 9638 | 37165 |  | 100 |
|  | 98  | 2857 | 11415 | 1.79 | 1.79 | 9424 | 37534 |  | 100 |
|  | 99  | 3092 | 11950 | 1.89 | 1.85 | 9646 | 37408 |  | 100 |
|  | 100 | 2777 | 11999 | 1.76 | 1.87 | 9591 | 37000 |  | 100 |
|  | 100 | 2799 | 11122 | 1.75 | 1.77 | 9647 | 37146 |  | 100 |
|  | 99  | 2888 | 11703 | 1.83 | 1.81 | 9397 | 37777 |  | 100 |
|  | 100 | 2788 | 12338 | 1.76 | 1.85 | 9438 | 38229 |  | 100 |
|  | 100 | 2855 | 12114 | 1.80 | 1.86 | 9497 | 37514 |  | 100 |
|  | 100 | 2741 | 11058 | 1.76 | 1.77 | 9375 | 36418 |  | 100 |
|  | 98  | 2822 | 11405 | 1.75 | 1.83 | 9812 | 36890 |  | 100 |
|  | 100 | 3050 | 11961 | 1.88 | 1.86 | 9633 | 37142 |  | 100 |
|  | 99  | 2835 | 12193 | 1.79 | 1.88 | 9362 | 37578 |  | 100 |
|  | 98  | 2961 | 11799 | 1.82 | 1.81 | 9692 | 38229 |  | 100 |
|  | 99  | 2929 | 11629 | 1.81 | 1.84 | 9573 | 36594 |  | 100 |
|  | 99  | 2912 | 11853 | 1.82 | 1.85 | 9398 | 37159 |  | 100 |
|  | 98  | 2906 | 11840 | 1.82 | 1.83 | 9527 | 37909 |  | 100 |
|  | 100 | 2887 | 11952 | 1.78 | 1.86 | 9638 | 37483 |  | 100 |
|  | 99  | 2916 | 12129 | 1.83 | 1.85 | 9429 | 37653 |  | 100 |
|  | 100 | 3055 | 11412 | 1.83 | 1.80 | 9739 | 37558 |  | 100 |
|  | 98  | 2792 | 11686 | 1.77 | 1.84 | 9395 | 37588 |  | 100 |
|  | 98  | 2962 | 12168 | 1.83 | 1.88 | 9542 | 37423 |  | 100 |
|  | 97  | 2886 | 11926 | 1.86 | 1.86 | 9235 | 37451 |  | 99  |
|  | 99  | 2757 | 11903 | 1.76 | 1.83 | 9264 | 37546 |  | 100 |
|  | 99  | 2950 | 11523 | 1.82 | 1.81 | 9461 | 37055 |  | 100 |
|  | 100 | 3058 | 12419 | 1.87 | 1.88 | 9455 | 38085 |  | 100 |
|  | 99  | 2993 | 11878 | 1.92 | 1.85 | 9191 | 36976 |  | 100 |
|  | 100 | 2803 | 11142 | 1.75 | 1.77 | 9370 | 37259 |  | 100 |
|  | 100 | 2687 | 11597 | 1.72 | 1.78 | 9373 | 37632 |  | 100 |
|  | 99  | 2989 | 11486 | 1.87 | 1.80 | 9334 | 37325 |  | 100 |
|  | 99  | 2838 | 11591 | 1.79 | 1.82 | 9343 | 37310 |  | 100 |
|  | 99  | 2806 | 11255 | 1.77 | 1.77 | 9506 | 36742 |  | 100 |
|  | 97  | 2890 | 11950 | 1.77 | 1.87 | 9697 | 37091 |  | 100 |
|  | 98  | 3082 | 11985 | 1.86 | 1.84 | 9618 | 38214 |  | 100 |
|  | 98  | 3023 | 11191 | 1.85 | 1.79 | 9517 | 36197 |  | 100 |
|  | 99  | 3023 | 12138 | 1.91 | 1.85 | 9179 | 37741 |  | 100 |
|  | 99  | 2769 | 11995 | 1.75 | 1.84 | 9421 | 37889 |  | 100 |
|  | 99  | 2898 | 11399 | 1.78 | 1.76 | 9530 | 37580 |  | 100 |
|  | 100 | 3039 | 10981 | 1.87 | 1.75 | 9366 | 37217 |  | 100 |
|  | 100 | 2762 | 12079 | 1.76 | 1.84 | 9433 | 38371 |  | 100 |
|  | 100 | 2766 | 11590 | 1.73 | 1.81 | 9558 | 37107 |  | 100 |
|  | 99  | 2818 | 11628 | 1.76 | 1.82 | 9631 | 37906 |  | 100 |
|  | 97  | 3100 | 11481 | 1.88 | 1.83 | 9711 | 36860 |  | 100 |
|  | 100 | 2684 | 12174 | 1.75 | 1.89 | 9144 | 37010 |  | 100 |
|  | 100 | 2795 | 11910 | 1.76 | 1.84 | 9523 | 37197 |  | 100 |
|  | 98  | 2884 | 11875 | 1.81 | 1.84 | 9416 | 37335 |  | 100 |
|  | 98  | 3020 | 11339 | 1.82 | 1.80 | 9774 | 36867 |  | 100 |
|  | 100 | 2649 | 11460 | 1.70 | 1.83 | 9437 | 36668 |  | 100 |
|  | 98  | 2965 | 12134 | 1.83 | 1.87 | 9552 | 37522 |  | 100 |
|  | 100 | 2915 | 11824 | 1.77 | 1.85 | 9774 | 37345 |  | 100 |
|  | 100 | 2968 | 11635 | 1.86 | 1.81 | 9400 | 37042 |  | 100 |
|  | 99  | 2870 | 11692 | 1.84 | 1.84 | 9213 | 37164 |  | 100 |
|  | 100 | 2864 | 11758 | 1.80 | 1.82 | 9248 | 37913 |  | 100 |
|  | 100 | 2791 | 11912 | 1.77 | 1.85 | 9485 | 37609 |  | 100 |
|  | 99  | 2797 | 12493 | 1.78 | 1.90 | 9481 | 37996 |  | 100 |
|  | 99  | 3021 | 11995 | 1.87 | 1.87 | 9419 | 37120 |  | 100 |
|  | 98  | 3051 | 10841 | 1.81 | 1.76 | 9802 | 36210 |  | 100 |
|  | 98  | 3065 | 11101 | 1.86 | 1.80 | 9747 | 36535 |  | 100 |
|  | 100 | 3010 | 11965 | 1.89 | 1.86 | 9405 | 37272 |  | 100 |
|  | 99  | 2782 | 12156 | 1.81 | 1.85 | 9260 | 38107 |  | 100 |
|  | 99  | 3061 | 12265 | 1.86 | 1.90 | 9637 | 37381 |  | 100 |
|  | 100 | 2748 | 11572 | 1.74 | 1.80 | 9542 | 37380 |  | 100 |
|  | 99  | 3011 | 11804 | 1.89 | 1.88 | 9360 | 37302 |  | 100 |
|  | 100 | 2883 | 11919 | 1.84 | 1.88 | 9407 | 36735 |  | 100 |
|  | 100 | 3163 | 11685 | 1.93 | 1.81 | 9665 | 37629 |  | 100 |



|     |      |       |      |      |      |       |     |
|-----|------|-------|------|------|------|-------|-----|
| 100 | 2801 | 10952 | 1.79 | 1.75 | 9364 | 36749 | 100 |
| 99  | 2868 | 10964 | 1.84 | 1.76 | 9343 | 36547 | 100 |
| 100 | 2879 | 11509 | 1.82 | 1.84 | 9357 | 36660 | 100 |
| 100 | 2892 | 11742 | 1.80 | 1.84 | 9518 | 37328 | 100 |
| 100 | 2910 | 11778 | 1.86 | 1.82 | 9147 | 37873 | 100 |
| 100 | 2947 | 11736 | 1.82 | 1.81 | 9671 | 38235 | 100 |
| 100 | 3145 | 11795 | 1.89 | 1.82 | 9855 | 37729 | 100 |
| 99  | 2766 | 11009 | 1.77 | 1.73 | 9519 | 37656 | 100 |
| 100 | 2990 | 12197 | 1.85 | 1.87 | 9333 | 37811 | 100 |
| 100 | 2913 | 11243 | 1.83 | 1.82 | 9451 | 36219 | 100 |
| 98  | 2930 | 11853 | 1.84 | 1.82 | 9410 | 37759 | 100 |
| 100 | 2856 | 12034 | 1.82 | 1.86 | 9226 | 37489 | 100 |
| 100 | 2992 | 12135 | 1.85 | 1.86 | 9515 | 37867 | 100 |
| 100 | 3049 | 11583 | 1.87 | 1.83 | 9581 | 36648 | 100 |
| 99  | 2850 | 11506 | 1.82 | 1.79 | 9237 | 37197 | 100 |
| 99  | 3099 | 11819 | 1.89 | 1.86 | 9494 | 36518 | 100 |
| 100 | 3046 | 12200 | 1.89 | 1.89 | 9493 | 37029 | 100 |
| 98  | 2940 | 10906 | 1.85 | 1.77 | 9491 | 36279 | 100 |
| 98  | 2867 | 11877 | 1.84 | 1.88 | 9180 | 36553 | 100 |
| 100 | 2957 | 12173 | 1.83 | 1.89 | 9390 | 37761 | 100 |
| 99  | 2974 | 12264 | 1.86 | 1.89 | 9364 | 37529 | 100 |
| 100 | 2958 | 12164 | 1.87 | 1.82 | 9338 | 38755 | 100 |
| 100 | 2969 | 11796 | 1.88 | 1.78 | 9204 | 38610 | 100 |
| 99  | 2776 | 11486 | 1.80 | 1.77 | 9218 | 38443 | 100 |
| 98  | 2978 | 11962 | 1.82 | 1.82 | 9685 | 37619 | 100 |
| 100 | 2805 | 12118 | 1.78 | 1.86 | 9383 | 37987 | 100 |
| 100 | 3053 | 12069 | 1.88 | 1.85 | 9436 | 37573 | 100 |
| 100 | 2886 | 12452 | 1.81 | 1.89 | 9579 | 37230 | 100 |
| 100 | 2701 | 12335 | 1.70 | 1.87 | 9588 | 37784 | 100 |
| 100 | 2983 | 12093 | 1.79 | 1.84 | 9837 | 37741 | 100 |
| 99  | 2860 | 11529 | 1.82 | 1.81 | 9347 | 37190 | 100 |
| 100 | 3097 | 12667 | 1.91 | 1.95 | 9446 | 37754 | 100 |
| 100 | 3099 | 13003 | 1.91 | 1.93 | 9487 | 38228 | 100 |
| 100 | 2833 | 11638 | 1.79 | 1.79 | 9425 | 37411 | 100 |
| 100 | 2715 | 12348 | 1.74 | 1.87 | 9384 | 38138 | 100 |
| 100 | 2841 | 12160 | 1.82 | 1.88 | 9240 | 37096 | 100 |
| 100 | 3088 | 11632 | 1.93 | 1.83 | 9553 | 36832 | 100 |
| 100 | 2761 | 11996 | 1.78 | 1.84 | 9401 | 37769 | 100 |
| 100 | 2909 | 11963 | 1.79 | 1.84 | 9824 | 37553 | 100 |
| 100 | 3095 | 11688 | 1.90 | 1.88 | 9555 | 35973 | 100 |
| 99  | 3055 | 11742 | 1.90 | 1.81 | 9418 | 38216 | 100 |
| 100 | 3050 | 11322 | 1.87 | 1.82 | 9519 | 36573 | 100 |
| 99  | 2833 | 11979 | 1.79 | 1.84 | 9346 | 38041 | 100 |
| 100 | 3113 | 13021 | 1.89 | 1.99 | 9627 | 37432 | 100 |
| 98  | 2998 | 11529 | 1.85 | 1.83 | 9620 | 37114 | 100 |
| 99  | 2794 | 12434 | 1.79 | 1.91 | 9308 | 37050 | 100 |
| 100 | 2936 | 11830 | 1.82 | 1.89 | 9629 | 36541 | 100 |
| 100 | 2899 | 12463 | 1.80 | 1.92 | 9670 | 37183 | 100 |
| 100 | 2710 | 12292 | 1.76 | 1.87 | 9132 | 38021 | 100 |
| 99  | 2969 | 11755 | 1.82 | 1.84 | 9625 | 37250 | 100 |
| 100 | 2764 | 11182 | 1.76 | 1.80 | 9295 | 36224 | 100 |
| 99  | 2995 | 11539 | 1.82 | 1.81 | 9477 | 37377 | 100 |
| 100 | 2753 | 11817 | 1.76 | 1.82 | 9179 | 38073 | 100 |
| 100 | 2829 | 11901 | 1.84 | 1.84 | 9042 | 37293 | 100 |
| 100 | 2939 | 12274 | 1.81 | 1.84 | 9647 | 38462 | 100 |
| 100 | 3036 | 12549 | 1.87 | 1.88 | 9474 | 38392 | 100 |
| 98  | 2864 | 11402 | 1.79 | 1.84 | 9536 | 36691 | 100 |
| 100 | 3062 | 11456 | 1.88 | 1.81 | 9608 | 36984 | 100 |
| 99  | 3064 | 11957 | 1.87 | 1.88 | 9534 | 36960 | 100 |
| 100 | 3104 | 11596 | 1.92 | 1.84 | 9439 | 36272 | 100 |
| 100 | 2824 | 11519 | 1.82 | 1.83 | 9089 | 36805 | 100 |
| 99  | 3111 | 11445 | 1.89 | 1.83 | 9606 | 36899 | 100 |
| 100 | 3129 | 11781 | 1.91 | 1.87 | 9608 | 37171 | 100 |
| 99  | 3013 | 11239 | 1.86 | 1.75 | 9462 | 37465 | 100 |
| 99  | 2735 | 11696 | 1.76 | 1.84 | 9279 | 37134 | 100 |
| 99  | 2801 | 11797 | 1.78 | 1.83 | 9364 | 37311 | 100 |
| 98  | 3067 | 11660 | 1.87 | 1.84 | 9623 | 36944 | 100 |
| 100 | 3035 | 11883 | 1.84 | 1.81 | 9594 | 38578 | 100 |
| 100 | 2973 | 11770 | 1.85 | 1.81 | 9342 | 37643 | 100 |
| 99  | 3023 | 12594 | 1.83 | 1.94 | 9789 | 37342 | 100 |
| 99  | 2850 | 11630 | 1.77 | 1.82 | 9572 | 37241 | 100 |
| 100 | 2809 | 11962 | 1.82 | 1.87 | 9134 | 37714 | 100 |
| 99  | 3028 | 11361 | 1.89 | 1.77 | 9225 | 37522 | 100 |
| 99  | 2805 | 11925 | 1.77 | 1.80 | 9442 | 38629 | 100 |
| 100 | 2904 | 12109 | 1.82 | 1.89 | 9356 | 37273 | 100 |
| 99  | 3052 | 11309 | 1.89 | 1.79 | 9461 | 37100 | 100 |
| 99  | 3085 | 11895 | 1.89 | 1.88 | 9568 | 36622 | 100 |
| 100 | 3082 | 12115 | 1.89 | 1.82 | 9581 | 38361 | 100 |
| 100 | 2752 | 12346 | 1.76 | 1.94 | 9429 | 36405 | 100 |
| 100 | 3043 | 11626 | 1.89 | 1.80 | 9576 | 37694 | 100 |
| 99  | 3221 | 11946 | 2.05 | 1.83 | 8913 | 38133 | 100 |
| 100 | 2829 | 11996 | 1.80 | 1.82 | 9327 | 38489 | 100 |
| 99  | 2802 | 12696 | 1.81 | 1.92 | 9262 | 38456 | 100 |
| 99  | 2746 | 11520 | 1.78 | 1.80 | 9277 | 37647 | 100 |
| 100 | 3035 | 11820 | 1.86 | 1.82 | 9449 | 38308 | 100 |
| 100 | 2892 | 11287 | 1.81 | 1.86 | 9461 | 35246 | 100 |
| 98  | 2913 | 11839 | 1.82 | 1.85 | 9433 | 37482 | 100 |
| 99  | 2656 | 12072 | 1.69 | 1.84 | 9660 | 38357 | 100 |
| 99  | 2859 | 11590 | 1.77 | 1.81 | 9584 | 37508 | 100 |
| 100 | 2844 | 11057 | 1.79 | 1.76 | 9515 | 36556 | 100 |
| 100 | 2746 | 12469 | 1.72 | 1.91 | 9454 | 37364 | 100 |
| 99  | 2792 | 11796 | 1.74 | 1.83 | 9747 | 37418 | 100 |
| 100 | 2880 | 11325 | 1.82 | 1.80 | 9360 | 36918 | 100 |
| 100 | 2968 | 11796 | 1.83 | 1.82 | 9365 | 37952 | 100 |
| 99  | 3178 | 11585 | 1.98 | 1.80 | 9393 | 37335 | 100 |

|  |           |             |              |             |             |             |              |  |            |
|--|-----------|-------------|--------------|-------------|-------------|-------------|--------------|--|------------|
|  | 98        | 2885        | 11364        | 1.85        | 1.78        | 9308        | 37595        |  | 100        |
|  | 100       | 2880        | 11713        | 1.81        | 1.77        | 9429        | 38695        |  | 100        |
|  |           |             |              |             |             |             |              |  |            |
|  | <b>99</b> | <b>2908</b> | <b>11812</b> | <b>1.82</b> | <b>1.83</b> | <b>9444</b> | <b>37449</b> |  | <b>100</b> |

APPENDIX E

ABSTARCT FOR STLE 66<sup>TH</sup> ANNUAL MEETING AND EXHIBITION,

ATLANTA, GA

STLE 66<sup>th</sup> Annual Meeting and Exhibition  
15-19 May 2011  
Atlanta Georgia  
Session 2A Rolling Element Bearings II:  
Erwin V. Zaretsky Symposium

Relative Ranking of Rolling Element Fatigue Life Using Weibull-  
based Confidence Bands and Confidence Numbers

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Comparison or relative ranking of fatigue lives of two competing materials, material sources, or machine components, such as rolling element bearings, are often inferred from small data sets without any statistical confidence. Confidence bands, based upon the method of Leonard Johnson, provide a graphical Weibull-based method by which the relative ranking of fatigue lives can be inferred with statistical confidence. Upper and lower confidence limits can be used to establish Confidence Numbers, which are a statistical probability of the number of times out of 100 that the fatigue life of rolling element bearing A is greater than rolling element bearing B if the same experiment is repeated 100 times. A Weibull-based Monte Carlo simulation is used to determine Confidence Numbers for both rolling element bearings and rotating shafts; the results are compared to graphical solutions available in the work of Leonard Johnson and validated using experimental results.

## APPENDIX F

### ABSTRACT FOR STLE/ASME 2010 INTERNATIONAL JOINT TRIBOLOGY CONFERENCE, SAN FRANCISCO, CA

**Proceedings of the STLE/ASME 2010 International Joint  
Tribology Conference**  
**IJTC2010-41140**  
**October 17-20, 2010, San Francisco, California, USA**

#### Test Population Size Selection from Experimental and Weibull-Based Monte Carlo Simulations of Fatigue Life

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#### **ABSTRACT:**

Because the fatigue lives of most machine components are probabilistic rather than deterministic, the scatter in the data must be considered when establishing the acceptable life and the inherent risk associated with that life. The impact of the test population size upon the scatter associated with fatigue data sets must also be understood. The authors have successfully used Weibull-based Monte Carlo simulations to model the fatigue lives of small populations of rotating shafts, gears, rolling element bearings, and transmission systems. To varying degrees, these models have been validated with limited experimental results. The purpose of this work is to (i) generate a large number of experimental rotating shaft fatigue failures for each aluminum alloy studied (AL 2024 and AL 6061) and use these large experimental data sets to further validate the simulations, (ii) establish variations in probabilistic life with population size based upon either the large experimental data sets or Monte Carlo simulations, (iii) compare the accuracy of various probability models (2-parameter Weibull, 3-parameter Weibull, etc.) incorporated into the simulations, and (iv) establish statistical significance between test populations based upon experimental and simulated Leonard Johnson Confidence Numbers. It was shown that (a) by both experimental fatigue lives and Weibull-based Monte Carlo simulations of a simple, single component system (rotating aluminum shaft), that as many as 30 to 35 fatigue failures may be necessary before reasonable 90-percent confidence limits are achieved, (b) even at large test population sizes (>100) there is still a probability band between which the fatigue life of the machine component is going to fail, (c) experimental representations of populations size and respective variation in 90-percent limits were similar to trends observed with Monte Carlo simulations, (d) 2- and 3-parameter Weibull probability models both simulated reasonable fatigue

lives of rotating aluminum shafts and (e) Johnson Confidence numbers were successfully used to establish that the probabilistic fatigue life of rotating aluminum shafts were statistically different.

**Keywords:** Machine component fatigue failures, fatigue, Weibull, probabilistic failure, Monte Carlo simulation, confidence numbers, aluminum 2024, aluminum 6061