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The Assistment Project: Comparing Learning through Hints and Worked Examples

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The ASSISTment Project: Comparing Learning through Hints and Worked Examples

An Interactive Qualifying Project Report

submitted to the Faculty of

WORCESTER POLYTECHNIC INSTITUTE

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

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Date: April 24th, 2008
Project number: NTH - 0708

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Abstract

There were three main goals for this project. The first was to develop content for the ASSISTment system based on the Connected Mathematics Project series of textbooks. The second goal was to convert this into a study to determine whether worked examples are more effective than hints for helping students learn in a computer tutoring environment. Data analysis suggests that worked examples were more beneficial for learning than hints. The third goal was to develop an ASSISTment support website.

Acknowledgements

Special thanks to Professor Neil Heffernan, for leading the project and bringing his enthusiasm, and to Cristina Heffernan for the weekly guidance throughout the course of the project. Also thanks to the ASSISTment development team for maintaining and improving the ASSISTment system. Finally, we would like to thank the teachers and students using ASSISTments, because without them, the project would not have been possible.

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1. Background

First, we will look into what programs are currently available that provide intelligent tutoring services as well as one which is quite different from these, but which is still classified as a tutoring system. Then we will compare these systems to the ASSISTment system.

1.1 Other systems

1. Quantum Tutors

Quantum Tutors is an internet based learning system where students can receive specifically detailed help in various subjects. It uses an AI program that varies the amount of help given according to the input of the student. The system has two main components, chemistry and mathematics. In the mathematics section, there are various subsections to choose from, as seen in figure 1.

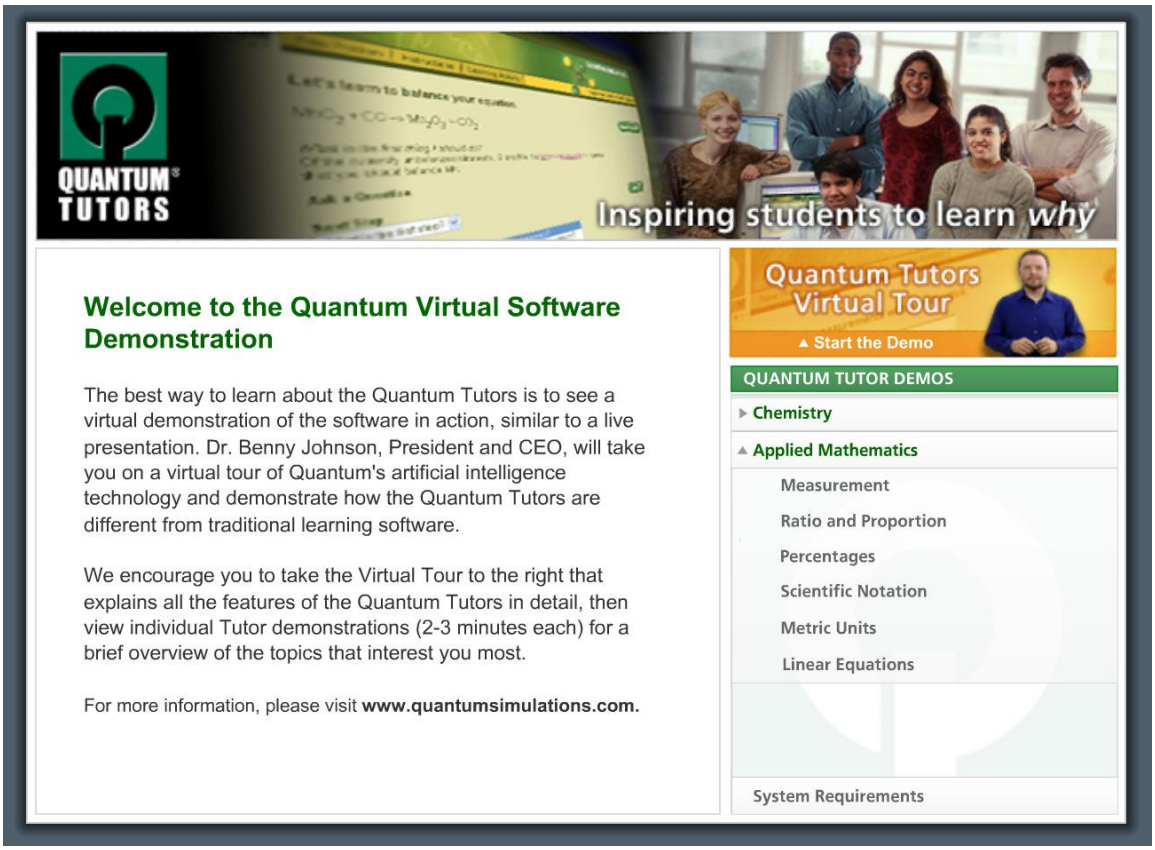


Figure 1: Mathematic subsections.

Inside the Scientific Notation subsection, the system first asks you to input a number. Then it asks you to write the number in scientific notation. It gives you a number of help questions for you to solve the problem, as seen in Figure 2.

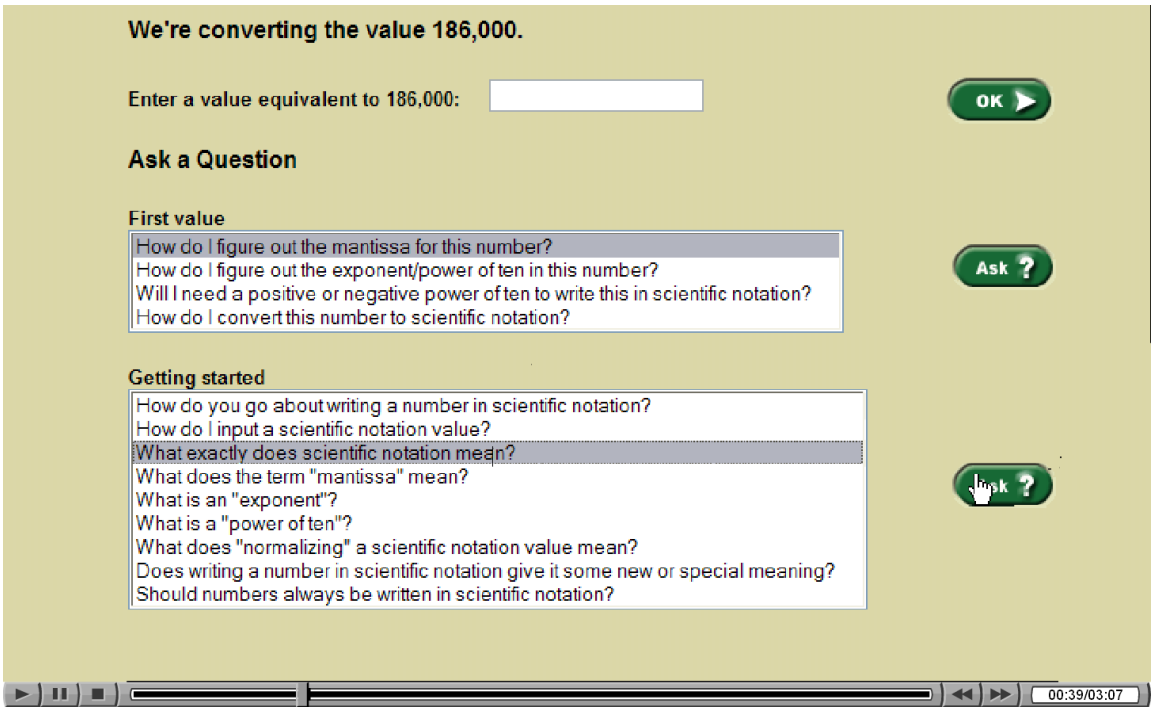


Figure 2: Help questions before answering the problem If the problem is answered correctly, the student is prompted to try another number. If the student is wrong, a set of more hint questions is provided according to the given answer, see Figure 3.

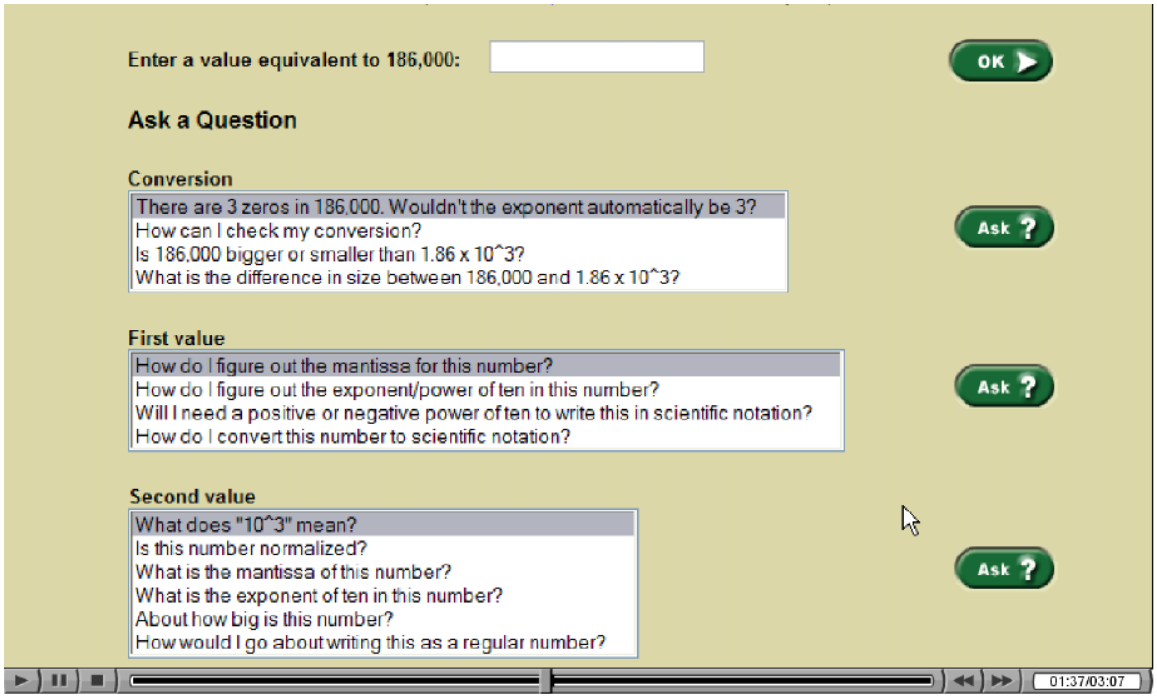


Figure 2: Help questions before answering the problem.

All of this can be seen at http://quantumeservices.com/virtual_demo/quantum/menu.html

2. **Study Island**

Study Island is a web-based learning system designed to help students reach a level of mastery in each state. The guiding principles and ideas behind the software are outlined in a paper produced by "Study Island called "Study Island and No Child Left Behind: Solid Research Equals Solid Results."[1] The paper attributes the software's success to three characteristics: focusing on each state's learning standards, its ease of use, and its constant regard for user feedback.

Each state has a different version of Study Island tailored to the state standards. The basic setup, however, is based on a pre-test, content, and post-test method. Student are given multiple choice questions only.

One way that Study Island tries to motivate the student is to have a choice of how the questions are presented. Student can either get "Test Mode", where the questions are given like an exam, or "Game Mode", where the questions are part of a game and the number of correct answers determines how well a student does in the game. An example of each can be seen in Figures 1 and 2.

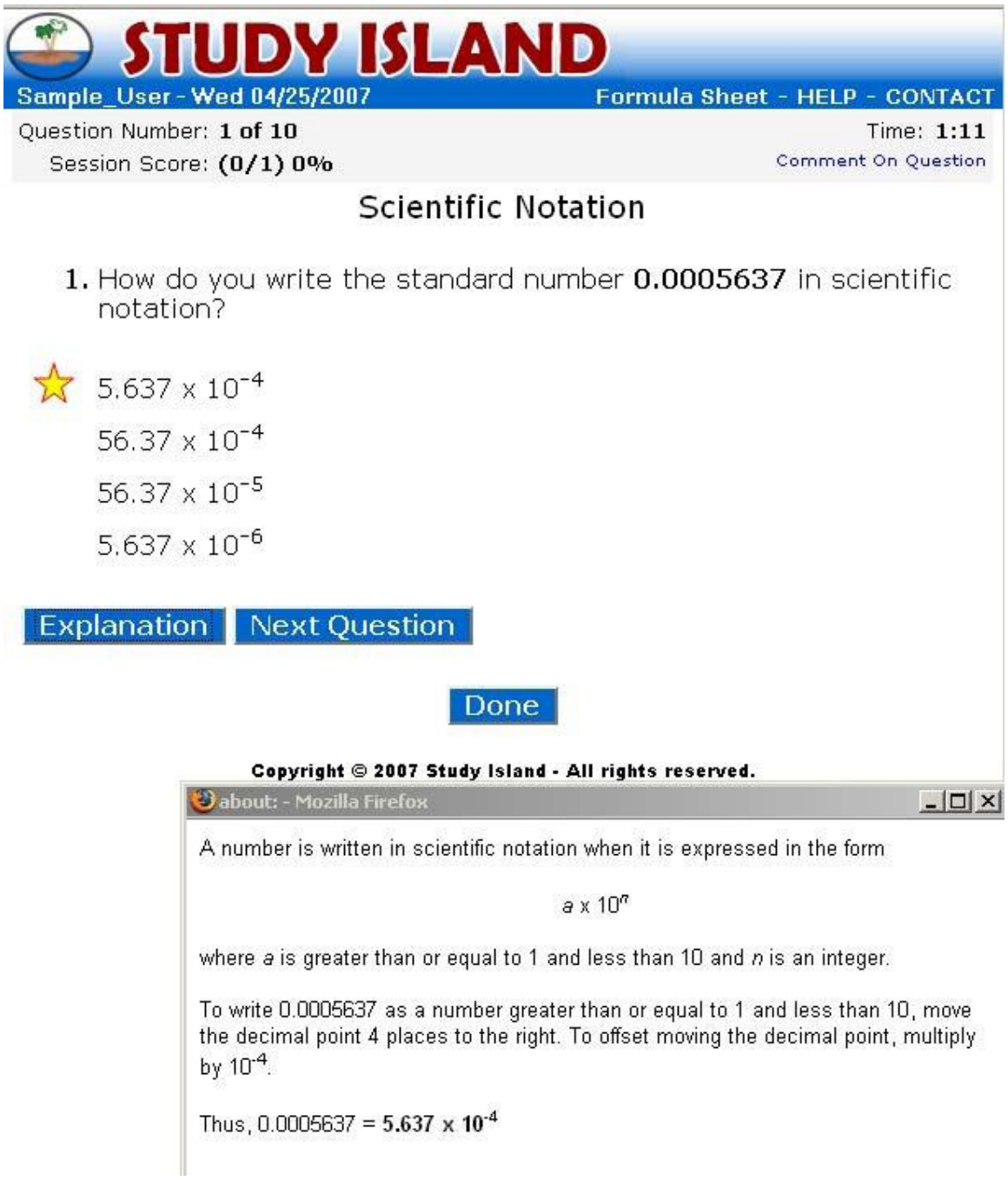


Figure 1: An example of a "Test Mode" question.

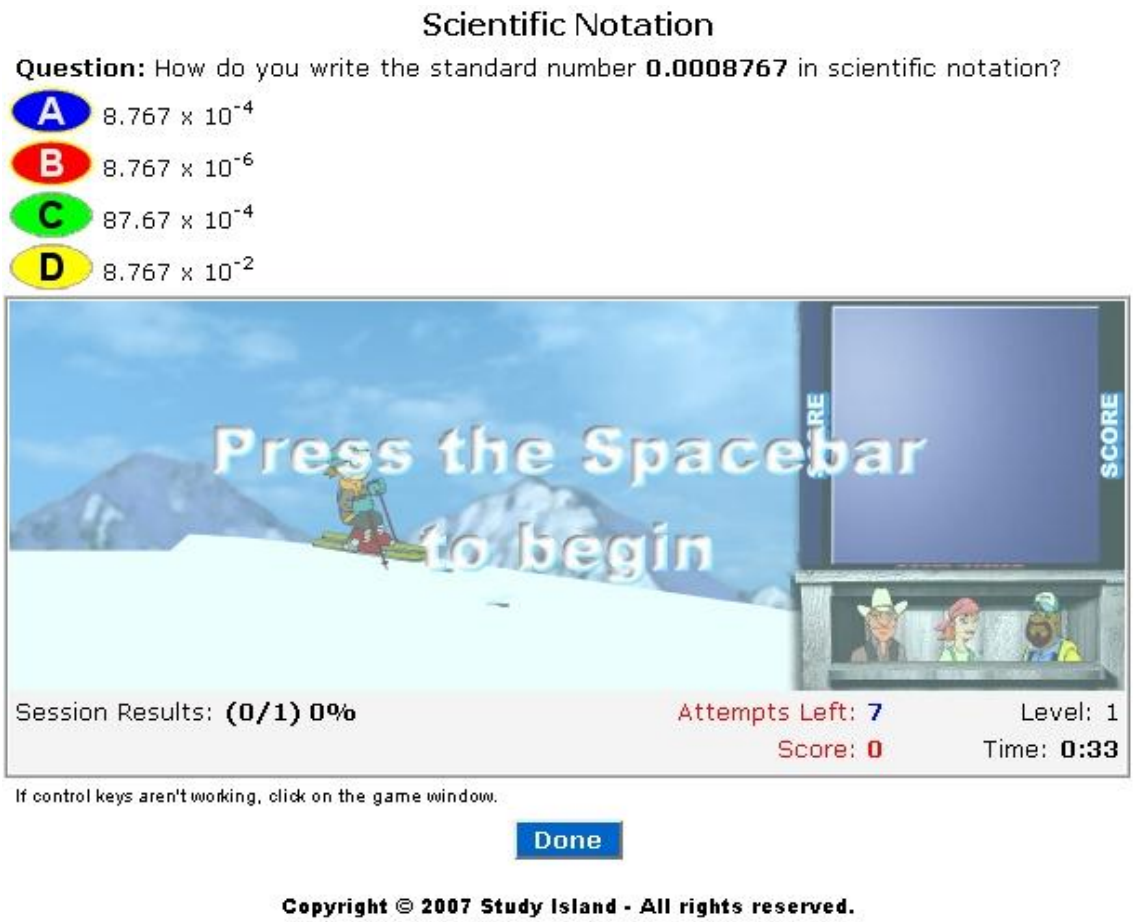


Figure 2: An example of a "Game Mode" question.

The system also has a dynamic problem select program that randomizes both the order of the question and the numbers in the questions, to prevent a student from memorizing the questions. Also the system can detect whether or not a student is guessing and gives a warning. All of this can be seen at http://www.studyisland.com/demoAsk.cfm?myState=MA

References

1. "Study Island and No Child Left Behind: Solid Research Equals Solid Results"

Available from: http://www10.studyisland.com/salessheets/SINCLB2006.pdf

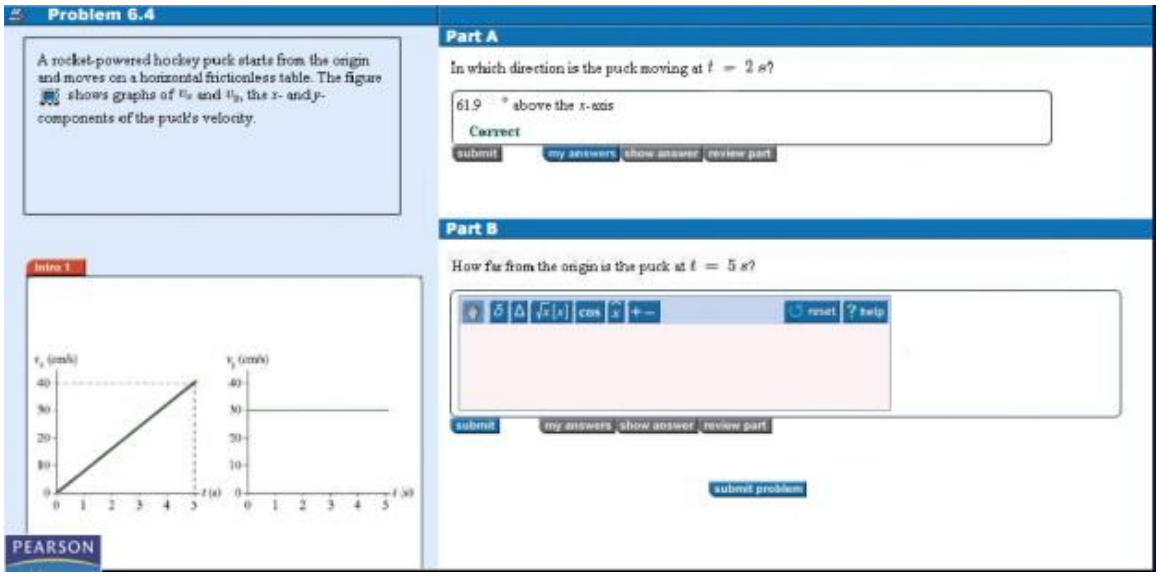
3. Mastering Physics

Introduction

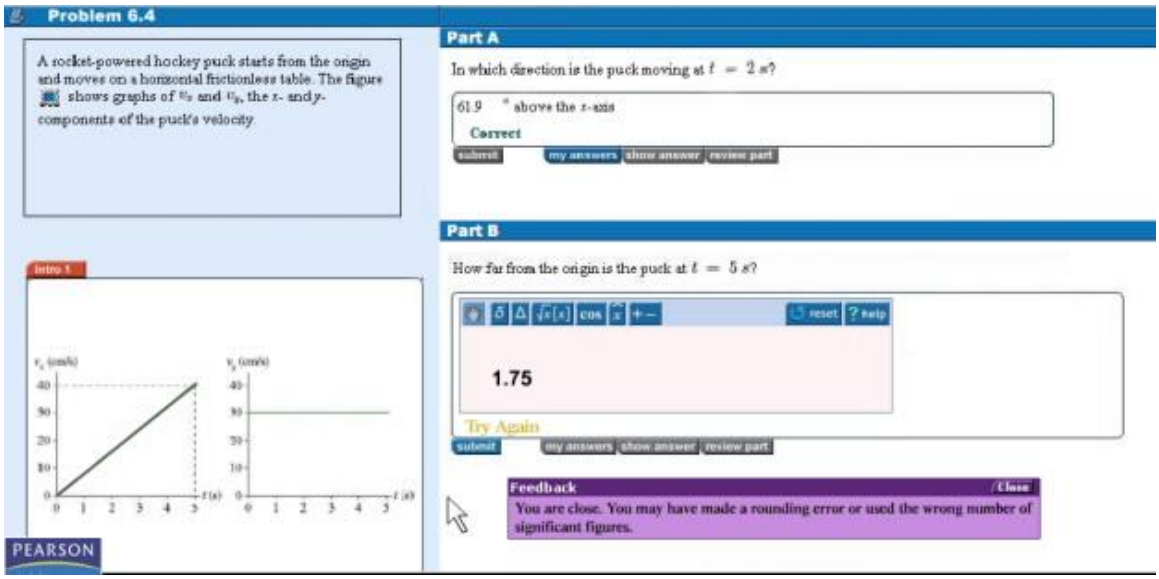
Mastering Physics is an online tutoring system that can be purchased separately or with various physics textbooks published by Pearson. It provides teachers with gradable problem sets that can be used to assess a student's comprehension of the material presented to them, as well as teach students how to solve a particular problem.

Problem sets

The problems are presented in a window browser. From here the users are given a description to the problem on the top left as well as visuals (if available) for the problem below the description. On the right side of the screen the questions are asked. The user is allowed a number of tries for each question and may look at their previous answers by clicking on the "my answers" tab. A picture of the interface is shown below.



The user is provided with some guidance when submitting an incorrect answer in order to guide them if they are making a trivial mistake or had a rounding error. The hint are shown in the figure below in Part B.



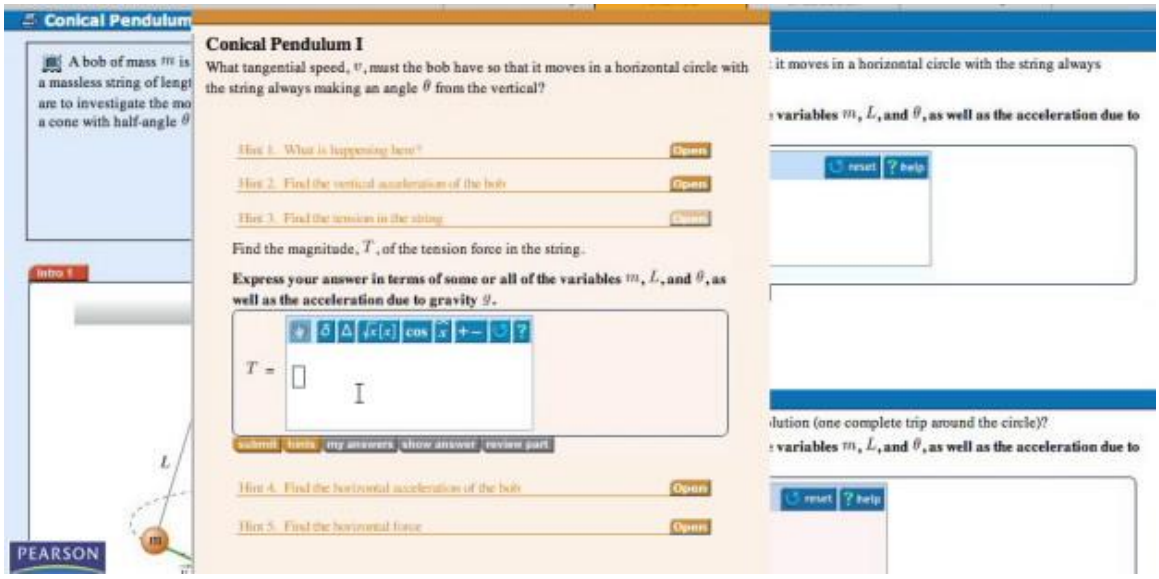
Grading

Teachers are given tools to monitor their student's progress and grades. The teacher can view the students score for each problem, the time spent on the problems, as well as the problems difficulty rating. The figure below shows the system that is used in Mastering Physics.

The teacher can view the students score for each problem, the time spent on the problems, as well as the problems difficulty rating.

Tutoring System

Mastering Physics also provides tutoring for students who are having trouble with the problems. By clicking a "hints" button a separate window opens with extended help for the problem. A picture of the hints window is shown in the figure below.



Each hint has a title that describes what part of the problem the hint addresses so if a student knows how to do certain parts of the problem they do not have to waste their time going over information they already know and can skip to what they actually need help with. Once a student selects the hint they want they are then asked another question that helps to break down the original problem. If the user is still having trouble with the problem they may ask for another hint and will be given more help that will guide them to the solution of the sub problem.

3. Visual Math Learning

In this section we will discuss the Visual Math Learning, which is a company that has a web site that provides interactive visual demonstrations of mathematical principles. This does not fit the previous three product descriptions and thus we will not analyze in the same way. We will instead focus on the different styles of learning, as well as comment on the potential intended purpose of this systems. We will discuss in detail a multiplication table and two approaches to having the student learn the values within this table. We will then conclude by commenting on a possible future of this systems.

Some students learn visually. They need to see a concept applied to really understand. This is where the wider use of computers in the modern educational system plays a role. With the widespread use of Java and other software, it is possible and even feasible to have an interactive student/computer learning environment.

There are two ways major ways of distribution of such a product. The first is by physical media, such as a cd, dvd or other media device. This will have to be sent via a postal carrier service to the class who will utilize it. The other way is to hose it on the web, and allow users to connect to the service and either download the product to the client's workstation, or run the product directly from the server. Of this later technique, one such website is www.visualmathlearning.com. This product is not designed as a first experience with a topic, but rather as reinforcement. The basic concepts (mathematical symbols,

fractions, and so forth) need to be known, even if they are on a weak foundation. This site allows the student to reinforce these concepts by controlling applets that react to their own thinking or inquisitions.

For example, take the multiplication table arithmetic exercise. The user (student) is asked to fill out the content of a multiplication table by select the product of the two number (row and column) and then dragging the number into the box in which it belongs. If the student answers incorrectly, it gives a visual demonstration of the product of the two numbers. If the number is say a*b, it will give a*b blocks, configured in b rows with a blocks in a row. This allows the student to select an arbitrary order in which to fill out the table, but limits students copying from one another or simply memorizing the pattern to the table, by randomly selecting the values of the rows and columns (permuting {1,2,..10}).

There are two main ways of teaching the same lesson, the learning of multiplication of two numbers. The first is with selecting two arbitrary numbers and asking the student to find the product of these numbers. Hints may lead to a similar demonstration of the block design explained previously. A second option is to have a subset of the 10*10 grid and ask the student to select the picture which accurately fills out the multiplication for the table. Both these ways assume a small number of variations, as each image, including the images displaying incorrect results, needs to be hardcoded. The second is through selective questioning on the product of two numbers, which is more likely to be found in ASSISTments.

The site is designed as a general confirmation to skills, which allows the student to define their own problems in some of the more interactive applets. A specific question is not asked. Instead, an interactive design that displays the behavior is demonstrated. This allows a flexible range of possible combinations and alterations to a possible well defined problem (i.e. a static questions such as in ASSISTments).

We believe www.visualmathlearning.com to add new applets which show case different areas of mathematics. I do not see a strong reason for this system to add new ways of looking at the same questions as ASSISTments does. Thus I see this system as expanding outward instead of expanding outward while also adding more features or content to the existing system.

1.2 ASSISTments

ASSISTments is a web based teaching system that provides tutoring in various mathematical areas. Created by numerous professors, graduate students, and undergraduate students, ASSISTments provides a way for teachers to make problem sets for students to learn ASSISTments is based around tree main concepts: building problems sets, tutoring students, and assessing the progress of students by teachers.

Building problem sets consists of a teacher choosing problems that are on the site to make a curriculum for his or her students. These provided questions are made up of MCAS problems from the Connected Mathematics Project (CMP) Middle School curriculum. Teachers can also share the content of other teachers' problem sets to make their own, or they can build their own problems in the system. There are a variety of problem sets that can be made. The questions could be made to be in a linear order, or randomized, depending on the needs of the students.

Students who use this system answer questions and receive computer assisted help if they answer incorrectly. Students also have access to hints in the problems. This interactive support provides encouragement for students to learn-by-doing.

Teachers can access the progress of students in three different ways. They can do an item analysis for each student on a problem set, they can do an analysis of how the class performs on each set, or they can do an overall summation analysis on how long each student spent on a problem, how many hints they asked for, and estimate how well a student could do on the MCAS test.

2. Project Goals

This IQP had three objectives. The first objective was to develop ASSISTment problems for the Connected Mathematics Project series of textbooks, the standard math textbook for elementary and middle school curriculums in Massachusetts. Creating this content will help the group learn how to design problem hints and scaffolds, increasing the quality of the problems, and thus the data, from the study.

The second objective was to conduct a study to determine whether hints or worked examples were more effective to promote learning. This study used sections of the CMP curriculum and randomly assigned some students to worked examples and some to hints.

The third objective was to create a website with information for teachers who use or are looking to use ASSISTments, to answer common questions and gather feedback from participating teachers, as well as creating content to assist in increasing participation and retention in the ASSISTment system by lowering the knowledge barrier for those starting to use the system.

2.1 Creating CMP Content

The first aspect we started with in this project was working on adding content to the system. The common textbook in elementary and middle schools in Massachusetts is the Connected Mathematics

Project (CMP). The team worked on developing ASSISTment problems for the following sections of the CMP curriculum:

7th grade:

- Bits and Pieces III
- Comparing and Scaling
- Accentuating the Negative
- Filling and Wrapping
- What did you Expect

8th grade:

- Comparing and Scaling
- Samples and Populations

2.2 Conducting the Study

After creating CMP content, the team was tasked with performing a study to determine whether hints or worked examples were more beneficial for promoting learning among participating students. The over 1000 students taking part in the survey would be a sample of from 86 classes in 7 different schools.This study would be conducted just like a normal ASSISTment problem set: after the teacher added study problem sets to the curriculum, the problem sets would be assigned to the students when they got to the appropriate CMP curriculum and the test data would be gathered by the system.

2.3 Developing an ASSISTment support Website

Before this project, the main method for a teacher to learn about ASSISTments was by talking with Neil or Cristina Heffernan or by looking at a binder that contained an overview of the ASSISTment system. A more user friendly and accessible method was desired. It was determined that a website focused toward teachers starting to use ASSISTments would be very beneficial.

The first iteration of this website was developed through web hosting and site development provided by Google. This site was located at http://www.rhcatwpi.com-a.googlepages.com/home. This site initially served the purpose of introducing ASSISTments, and content was created to walk a teacher through setting up an ASSISTment teacher account and creating and managing a class, as well as providing a student walkthrough in setting up an account and completing ASSISTments problem sets. This first site had some weaknesses. First, it was hosted by Google, instead of on one of the ASSISTment web servers. This was a cause for concern, since Neil would not have full control access and control over the site. Second, the Google web page builder was not as robust as was needed to make a site as content rich as was desired. Specifically, the sidebar was very annoying to build, as it was not dynamic at all.

It was decided that a switch was needed to resolve these problems. After considering the options available, a wiki format hosted on ASSISTment web servers was settled upon. A wiki has the benefits of allowing the easy addition and organization of large amounts of data in multiple formats. Dynamic linking and an easy markup language makes creating the breadth and depth of content desired for an ASSISTment support site relatively simple. An added benefit is the ability for anyone to post, allowing content additions from many users, rather than just the webmaster.

The ASSISTment support wiki, located at http://nth5.wpi.edu/wiki/index.php/Main_Page, now contains a range of content. In addition to the student and teacher text walkthroughs, there is a narrated video walkthrough of a student completing a problem set and of a teacher performing simple class administration. Additional videos are planned to demonstrate other teacher activities in the

system, such as data analysis on individual students. The site also contains versions of the teacher manual binders in pdf format, in case teachers want a hard copy overview of ASSISTments. A new addition is a section containing real world cases, demonstrating innovative uses of ASSISTments in the class room, or outlining ways that teachers have improved student learning with the system.

The site also includes an ASSISTment bug report section and a new changes/upcoming features page. While these are not currently used, there is potential to use these sections as a way of updating and gathering feedback from users, allowing for continued improvement of the ASSISTment system.

A happy outcome of the creation of the website and walkthroughs was the creation of a test class. To accurately depict the system in video without giving away actual student or teacher information, a class was needed that was not an actual elementary or middle school class. A class lead by Alan Turing, our imaginary ASSISTment school district teacher, was created for this purpose. This test class can also be used for interactive presentations of the system at conferences or demonstrations without needing to worry about divulging student names or scores.

3. Content

A large amount of content was created by the group for each of the three objectives. Each group member participated in creating ASSISTment problems based on various CMP curriculums. Group members also participated in creating the content necessary to run the study. Matthew and Tom created content for the ASSISTment support wiki.

3.1 CMP Questions

To create content to assist students in learning the CMP sections, we followed a set process. We first received a question developed by Cristina. Next, we would take the question and solve it, keeping track of what techniques were used to arrive at the correct answer and identifying potential sources of

common errors. Keeping in mind the grade level of the question, a solution was drafted and then built and saved in the ASSISTment builder. This problem was then reviewed by peers and Cristina for clarity of explanation and correctness. Figure one below shows an example of the builder with a problem entered. Note the use of pictures and color to highlight key points to the student. A comprehensive collection of the CMP problems generated by the team are located in Appendix C.

Figure 1

Build › 25423 - Fill Wrap Inv. 1 #1b Hints

[No tags currently assigned]

Edit tags

Main Problem

25423 - Fill Wrap Inv. 1 #1b Hints

Enable scaffolding for this problem

Preview

Font size

Which one of these nets can be folded to form a closed rectangular box?

A

B

Save Problem Body

Problem Type: Multiple choice

Answers

Common wrong answers of this problem:
A. (89/146)
B. (30/146)
C. (26/146)

✗ A.

✗ B.

✗ C.

✓ D.

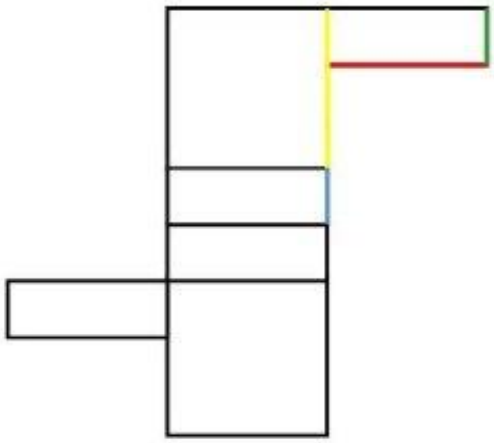
New Answer

Hints

Try to mentally fold the nets one at a time and see if the sides match up.

As you can see in figure A, there are only five faces, where a rectangle needs six.

In figure B, the red side and yellow side would match, but it is not possible to fold the net t… these edges to line up. The same is true for the green and blue sides.



In figure C, When folded properly, the net creates a triangular prism. We are looking for a re… ar… prism

In choice D all the sides do match up and will fold to form a closed rectangular box. Choose …

New Hint

3.2 Study

Content creation for the study was similar to that of the regular CMP problems, since the initial starting point for each study question was a CMP problem. Once a CMP problem was selected, a worked example problem was formed using the same base question and answer, and then a derivative (morph) of the question was created and then a hints version and worked example version were created for this morph question. Thus, for every one question in a CMP problem set that a study was to be performed on, an additional three problems were built in the ASSISTment system. This is in addition to the original CMP questions that the group members built. All problem sets for the study contained three to four original hints questions. Once these questions were built, they were placed into problem sets where all of the four questions (original hints, morph hints, original worked example, and morph worked example) would be in the pretest given to the student, but the posttest questions given would always be the hints version of whichever problem they hadn't done: e.g. they start with original hints, so the posttest questions are morph hints. Another path would be starting with morph worked examples, and the posttest would be original hints.

3.3 Website

The website contains comprehensive walkthroughs of the ASSISTment system from both the teacher and student perspectives. These were created by taking screenshots and notes of the steps as new accounts were created and then used.

An excerpt from the wiki on how a teacher creates a class is presented below:

Creating a Class

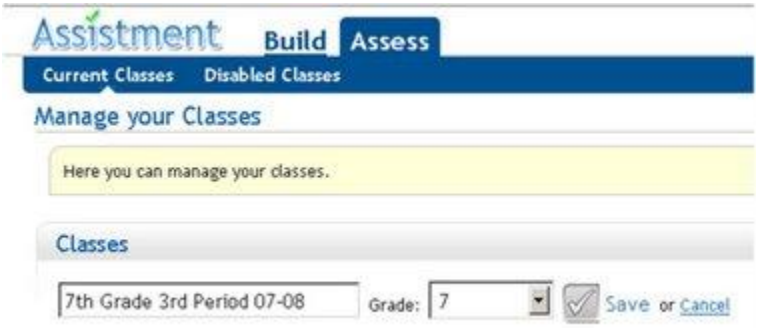
To Create a class

1. Select Assess at the top of the page, then Current Classes

2. Select "New Class"

3. Fill in the desired name for your class.

- A descriptive name is a good idea, such as the grade level, the period, and the year.



4. Then, select the grade level from the drop down list and Save.

- **Students enroll in your class after they create their student accounts**

Note the pictures to clearly illustrate the steps of the process, and the links to related topics. These links help answer teachers questions as they arrive at them, allowing for flow from one phase of setup to the next and lowering confusion and frustration.

Additional Website Content may be found in Appendix A.

4. Study

The study was the focus of two thirds of the project, first with developing the problem sets used in the study and then deploying these problem sets to be used as curriculum within schools. To see this deployment, our group members visited schools to see how the students and teachers reacted to the ASSISTment content

When a teacher builds problems, two ways they could build them is either with hints, or with worked examples. A teacher might want to know which way would give the student a better chance at learning. In our study, we use the ASSISTment system to test this question. Problems of each type were made and sent out to schools in the greater Worcester area. After having teachers and students use the problem sets we built, we collected the data and analyzed it to answer this question.

4.1 Hypothesis:

Our hypothesis for this study is that worked examples are a better way of learning when compared to hints. We will measure this difference by average total gain, which is our measure of learning.

4.2 Method

4.2.1 Setup

For each problem we were first given an ASSISTment problem set that employed hints, which we had created earlier. Our group then created 3 more ASSISTments, one more hint and two worked out examples, similar in concept and setup to the initial problem. Each set was labeled as:

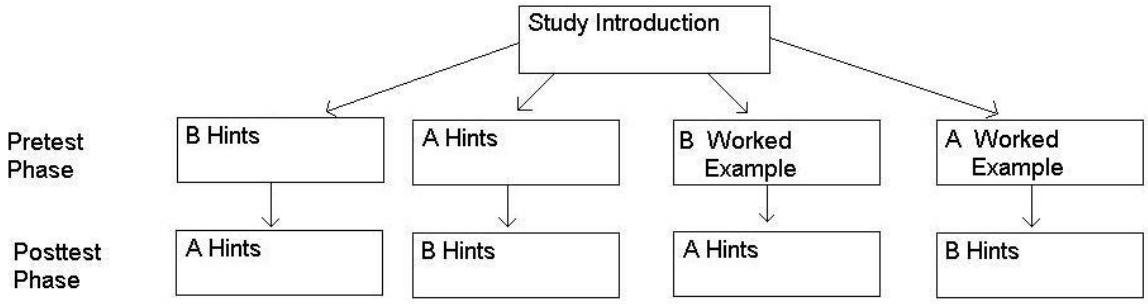
A-Hints

A-Worked Example

B-Hints

B- Worked Example

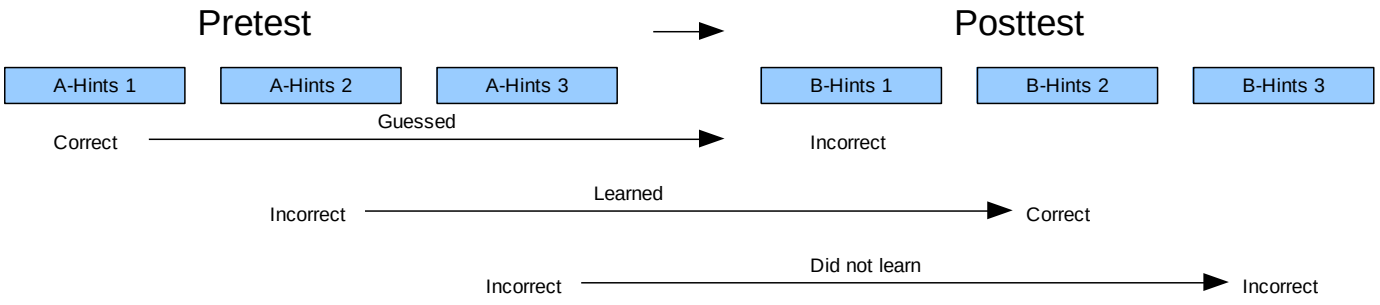
Once all the ASSISTments for a category were created we arranged them into problem sets of 2-4 ASSISTments for a pre-test. All the A-Hint problems were clumped together in a test and the same goes for the other three categories for the ASSISTments. Each pre-test had a corresponding post test containing similar problems using hints.



Each student in the study was randomly assigned either pretest B Hints, A Hints, B Worked Example, or A Worked example and it's corresponding posttest.

How the model was used:

The setup we used for the study would show us which type of ASSISTment the students responded best to. If the student did not know how to solve a particular problem they were either given hints or a worked example according to what test they were assigned. The posttest then quizzed the students on a similar problem to see how the students responded to the help they were given.



4.2.2 Data Collection

After the tests were administered data was collected for how the students responded to the tests. The different conditions that could arise were:

Learned – A student was said to have learned if they got the question wrong in the pretest and got the corresponding question right on the post test. If the student got the question wrong on the pretest then they had to have gone through either the hints or worked example to help them understand where they made their mistake, if they learned through this process then they should logically get a similar question correct. Those who learned were given a gain score of one (1) for every instance in which they learned.

Did not learn – A student was to have not learned if:

1. A student got the first question correct and the corresponding post test question correct. This was counted as "did not learn" because the student already knew how to solve the problem and thus did not go through the hints or worked example in the pretest.
2. A student got the first question wrong and the corresponding post test question wrong. This even was also counted as a "did not learn" because although the student saw the worked example or the hint, they did not learn from it and could not answer a similar question correctly.

Those who did not learn were given a zero (0) for every instance in which they did not learn.

Guessed – A student was said to have guessed if they got the first question correct and the corresponding second question incorrect. Those who guessed were given a negative one (-1) for every instance in which they guessed. The reason for a negative score was not because we believed the student unlearned or that the ASSISTment program was detrimental to the student. The score was given to offset those who possibly guessed on the ASSISTments and were counted as learners.

No Data – If a student did not complete a question it was counted as "No Data".

4.2.3 Example Data Input

Figure 2 shows a subset of the data gathered from the ASSISTment system for the study. Here we see the sequence number of the Problem Set, the User ID for the student, the Student's IRT score, the correctness of the test questions, which path the student started with (A or B), and whether the student completed the path with hints or worked examples.

Figure 2

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Sequen	User Id	Student IRT	IRT	Pre-test #1	Pre-test #2	Pre-test #3	Pre-test #4	Post-test #1	Post-test #2	Post-test #3	Post-test #4	Condti	WE or Hints
15	5068	52018	-1.276526	0	0	0	0	0	0	0	0	0	B	Hints
103	5068	52201	1.067728	1	1	0	0	0	1	1	1	1	B	Hints
108	5068	52202	1.261027	1	1	1	0	0	1	1	1	1	A	WE
111	5068	52202	1.261027	1	1	0	0	0	0	1	1	1	B	WE
118	5068	52204	1.178018	1	0	0	1	1	0	1	1	0	B	WE

4.2.4 Assumptions and Analysis Method

Assumptions of Student IRT NUMBER

The first attribute of our two populations that will be examined to test the assumptions of the study will be the ASSISTments systems IRT number. This is a number that is assigned to a student based upon past questions answered with ASSISTments that is used as an indicator of their performance on the MCAS exam. The interval of possible values for this IRT number ranges from -4 to 4 inclusively. We shall examine this value in detail prior to asserting claims on the learning coefficient for the participating students. First, we will discuss inaccuracies and errors inherent within the system concerning the IRT numbers. Then we will discuss our proposed solutions and the validity of the resulting analysis. Lastly, we will introduce other tests which we will employ to gather data from an otherwise statistically insignificant null hypothesis, which we define below.

There are cases when ASSISTments either reports an inaccurate IRT number, or fails to supply a number. In the case that an IRT number is not provided, we will not have a parameter for a certain number of students. This will require a smaller sample size for testing for the population mean. As a

result, these values will have to be ignored during the initial testing on the distribution of IRT numbers, and then used during testing concerning the learning coefficient, or also disregarded during this phase.

The other problem concerning IRT numbers is an inaccurate IRT number. An inaccurate IRT number is defined to be an IRT number whose value is outside of our interval of -4 to 4 inclusively. This is the result of either faults within the system or the student answering every question wrong, and the current IRT number calculator not being able to handle this case. An outlier, whose IRT number is inaccurate, will skew the sample variance and sample mean, and introduce a strong bias into the hypothesis concerning the random distribution of IRT numbers amongst the two experimental groups.

We propose a solution to these two problems concerning IRT numbers. We will remove the test results associated with the students who do not have an IRT number, and record the number of such students removed as a parameter. If this procedure skews the sample sizes beyond a specified threshold, we will state the data is not significantly valid since a strong bias will be introduced. This may be that the students who do not have an IRT number are new and are distributed more densely to worked examples over hints. If the student has an inaccurate IRT number, we will remove their test results from our samples, before testing for population means. If this introduces skew of sample sizes of two groups, we will state the data is not significantly valid since we introduced a strong bias. If the sample sizes shrink proportionately, we will still analyze the data concerning the relative learning coefficients between the group who received worked examples and the group who received hints.

Assumptions on difficulty of pretest and posttest questions

For a given problem set, the pretest questions for a student are assumed equal in difficulty for problem set version A and problem set version B. We note the student will be introduced to an identical question regardless of the experimental group the student is assigned. It is not until the student incorrectly answers a pretest question that they will become aware of their experimental group, either

hints or worked examples. Therefore we will use this assumption to estimate the number of "guessers" within a sample.

The number of students who answer the pretest question correctly and the posttest question incorrectly will be referred to as a "guesser." Since these students are not introduced to any content for that specific question, as they answered it correctly, we will use the number of guessers to estimate the number of guessers who answer the pretest question incorrectly and the posttest question correctly. We expect additional learning to go on when a student views this content, and this number serves to distinguish guessers from learners.

Assumptions on time to finish hints vs. worked examples

It may be the case that either questions involving worked examples or questions involving hints take longer than the other and thus only those students who work at a certain speed are capable of finishing the longer problem sets. There may be a difference between these students who finish the longer problem sets and those who do not. This difference may be in overall learning, IRT numbers, or some other characteristic which ASSISTments does not categorize. In order to account for this possible disparity, we require the two groups to be sampled from the same population concerning the student IRT number.

4.3 Analysis

I. Analysis of Student IRT Number

We will be interested in the distribution of the IRT numbers in different contexts. We first wish to determine whether the students were randomly assigned to groups by their IRT number. This will help to show if the ASSISTment system is correctly functioning. We will then be interested if the IRT number of those students who completed both the pretest and the posttest since these are the students that we

will be analyzing. Lastly, if there is overall learning we will need to know if the IRT numbers are still balanced when we take out those students who got all of the pretest questions correct and hence were not introduced to any content. We will use the following t-test when analyzing the student IRT number.

The population mean for the IRT number in the ASSISTments system is 0. Since our data is stratified by students belonging to a certain class, we will not compare the means of the two groups to the mean of the population. Instead we will employ a two-sample t-test for testing whether the difference in means between the two samples is due to chance, or due to the two samples being drawn from different populations. Null hypothesis: The two distributions of experimental groups, hints and worked examples, are drawn from populations with the same mean IRT number. The alternate hypothesis will be that the means for the two groups are not equal.

II. **Analysis of overall learning**

To analyze overall learning we require that the student IRT number be valid, as defined earlier. We are concerned with an increase in the number of correct responses on the post test from the number of correct responses on the pretest. We will now discuss possible methods of analysis to compute the overall learning. We will then discuss our plan to comment on these results. We note the term result in the following sections will be used to correspond to the pair of a pretest and a posttest response on a single question.

To compute the number of learned results and the number of unlearned results we will be interested in the gains of the student when all the questions for the particular problem set are viewed together. Since we will not be viewing each result on a question by question basis, we require that all students have completed the pretest and the posttest. If there is overall gain, we will reduce the sample size and test for comparative learning.

III. **Analysis of Comparative Learning**

Here we will be interested in the relative learning of those students who were assigned to hints compared to those students who were assigned to worked examples. We are hoping that the average overall gain for worked examples is statistically greater than the average overall gain for hints. We will check that there is a reliable difference between the two populations by performing a two tailed test for the mean overall learning of the two groups. The null hypothesis will be the two populatives have an equal mean overall learning. The alternate hypothesis will be that their means are not equal.

We are hoping for a p-value less than .05 since this would provide statistical evidence against the two means being equal, meaning that either hints or worked examples is a better way for a student to learn. In order to exaggerate the difference in the samples, we will remove all the entries who answered all the pretest questions correct since they were not exposed to either hints or worked examples. We require the students still be randomly distributed into the two groups when we take out those students who received 100% on the pretest.

Problem Set Data Analyzing

Problem Set 5068

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

	Hints	WE	Grand Total
Below Average IRT	107	119	226
Above Average	61	81	142

IRT			
Grand Total	**168**	**200**	**368**

The distribution between hints and worked examples is fairly balanced, with worked examples having a larger sample size than hints. This data set is also made up of more students with lower than average IRTs than those with higher than average IRTs.

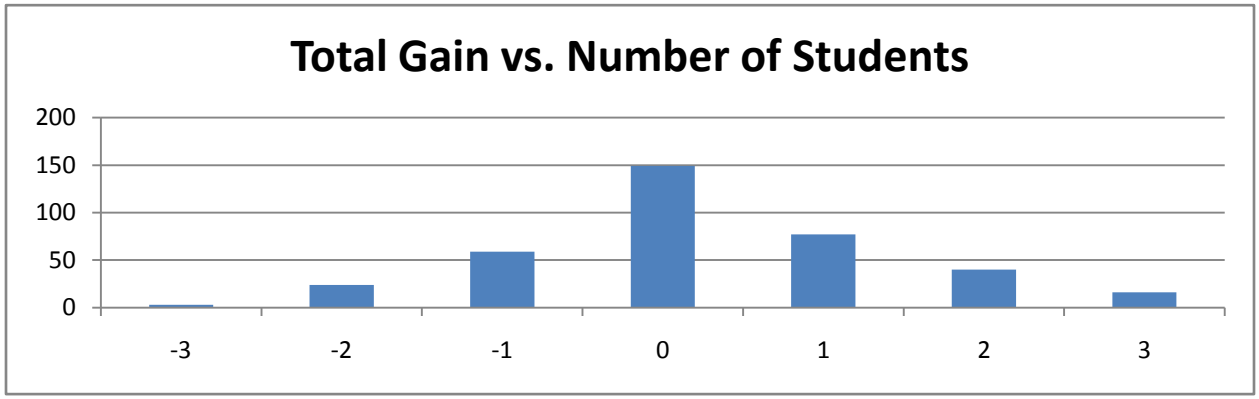
To make sure that the data was reliably the same we did a t-test to verify this by testing whether it was drawn from the same data set.

The t-test of student IRTs split between hints and worked examples returned the value $T(368) = 0.563532$, $p < .05$, reliably indicating that these samples were drawn from the same data set.

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as "learning".

Total Gain Score	Number of Users
-3	3
-2	24
-1	59
0	149
1	77
2	40
3	16
Grand Total	**368**



The distribution of gain above shows that there were more data points in the positive gain region as opposed to the negative gain region, indicating that there may have been overall learning.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test.

Number of Users	Average of Total Gain
368	0.241847826

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Gain	368	.2418	1.21466	.06332

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Gain	3.820	367	.000	.24185	.1173	.3664

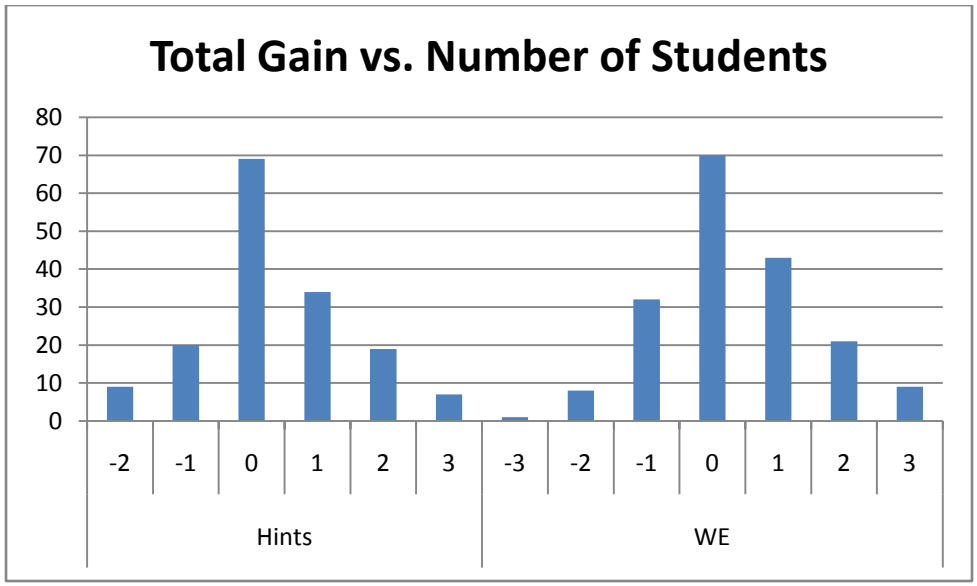
This t-test, with a value of less than .001, indicates that there was indeed overall learning or unlearning, and based upon the mean difference and the confidence interval, it can reliably be concluded that there was overall learning.

Learning from Worked Examples vs. Hints

Our initial experiment was to see whether Worked Examples was a statistically better form of teaching students compared to hints. After checking for even distribution of problems and IRT scores to make sure that more intelligent students did not receive one type of problem set over the others we had to check to make sure that there was overall learning for this experiment to be valid.

Now our analysis of the two teaching styles occurs. For this portion of the data analysis we took away all students who had no chance of learning- those who received a perfect score on the pretest, and only evaluated those who completed the tests.

Total Gain Score	Number of Users
Hints	**158**
-2	9
-1	20
0	69
1	34
2	19
3	7
WE	**184**
-3	1
-2	8
-1	32
0	70
1	43
2	21
3	9
Grand Total	**342**



The gain scores between the two groups appear very similar, so we will have to look more closely at the data values to determine whether one way or another is better for promoting learning in this problem set.

After looking at the distribution of gain scores for Hints and Worked Examples we looked at the average scores and compared them with a t-test to make sure they were reliably different.

Average Gain between hints and WE		
	Sample Size	**Average of Total Gain**
Hints	158	0.348101266
WE	184	0.331521739
Grand Total	**342**	**0.339181287**

The t-test returns the value $T(341)= 0.896702$, $p < .05$, indicating that there is an almost 90% probability that these samples were drawn from the same data set. Thus, it cannot be reliably said that one method is better than the other in this problem set.

Problem Set 5077

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

Row Labels	Hints	WE	Number of Users
Below Average IRT	110	73	183
Above Average IRT	80	43	123
Number of Users	**190**	**116**	**306**

The distribution between hints and worked examples is uneven, with almost 80 more students taking the hints version than the worked examples version. This data set is also made up of more students with lower than average IRTs than those with higher than average IRTs.

To make sure that the data was reliably the same we did a t-test to verify this by testing whether it was drawn from the same data set.

The t-test of student IRTs split between hints and worked examples returned the value $T(305)= 0.66467$, $p < .05$, reliably indicating that these samples were drawn from the same data set.

-100%

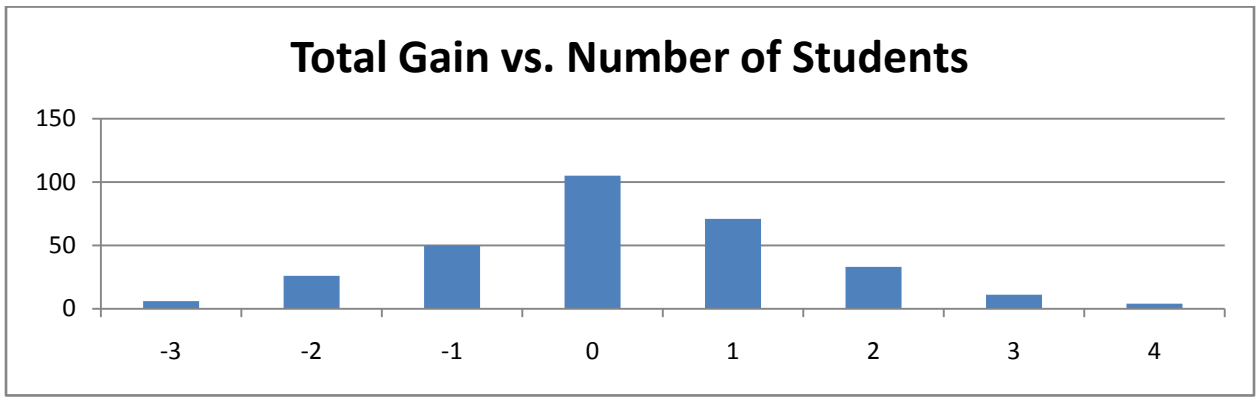
T(270)=0.240544

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as "learning".

Total Gain Score	Number of

	Users
-3	6
-2	26
-1	50
0	105
1	71
2	33
3	11
4	4
Grand Total	**306**



The distribution of gain above shows that there were more data points in the positive gain region as opposed to the negative gain region, indicating that there may have been overall learning.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test.

Average Number of Users	Average of Total Gain
306	0.215686275

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Gain	306	.2157	1.35473	.07744

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Gain	2.785	305	.006	.21569	.0633	.3681

This t-test, with a value of less than T(305)=.006, $p < .05$, indicates that there was indeed overall learning or unlearning, and based upon the mean difference and the confidence interval, it can reliably be concluded that there was overall learning.

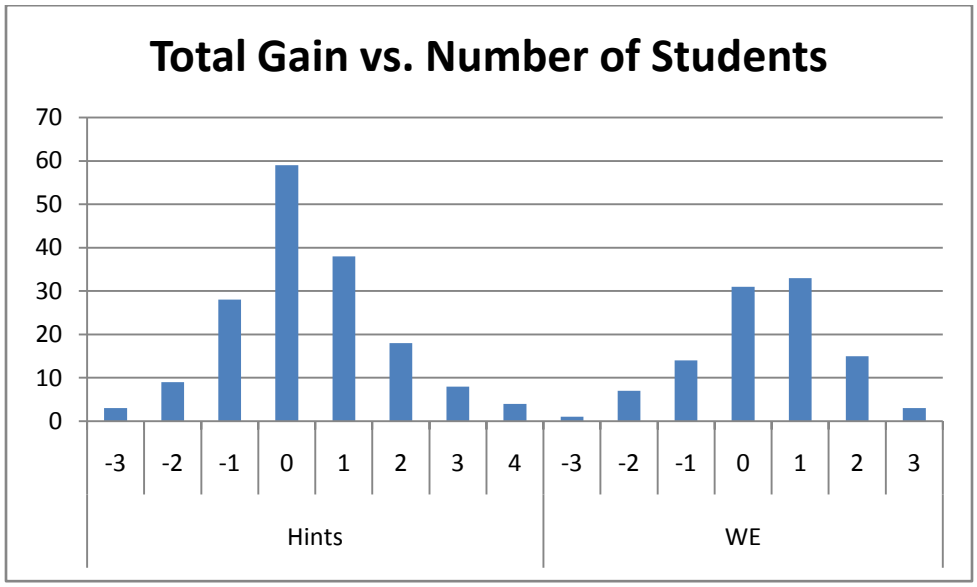
Learning from Worked Examples vs. Hints

Our initial experiment was to see whether Hints or Worked Examples was a better form of teaching students. After checking for even distribution of problems and IRT scores to make sure that more intelligent students did not receive one type of problem set over the others we had to check to make sure that there was overall learning for this experiment to be valid.

Now our analysis of the two teaching styles occurs. For this portion of the data analysis we took away all students who had no chance of learning- those who received a perfect score on the pretest, and only evaluated those who completed the tests.

Total Gain Score	Number of Users
Hints	**167**
-3	3
-2	9
-1	28
0	59
1	38
2	18
3	8
4	4
WE	**104**
-3	1

-2	7
-1	14
0	31
1	33
2	15
3	3
Grand Total	**271**



The gain scores seem to indicate that worked examples are more successful than hints at promoting learning. This is evidenced by the fact that for worked examples, there are more students in the +1 category than there are in the 0 category, while in hints the 0 category has many more. This is reinforced by the overall distribution of data concentrations on the graph.

After looking at the distribution of gain scores for Hints and Worked Examples we looked at the average scores and compared them with a t-test to make sure they were reliably different.

Total Gain Score	Number of Users	Average of Total Gain
Hints	167	0.353293413
WE	104	0.394230769
Grand Total	**271**	**0.36900369**

The t-test returns the value T(270)= 0.804576, p < .05, indicating that there is an almost 80% probability that these samples were drawn from the same data set. Thus, it cannot be reliably said that one method is better than the other in this problem set.

Problem Sets 5078

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

Count of User Id	Column Labels		
Row Labels	Hints	WE	Grand Total
Below Average IRT	57	41	98
Above Average IRT	56	22	78
Grand Total	**113**	**63**	**176**

It appears that the total number of hints was significantly higher than worked examples, but to make sure that the data was not reliably the same we did a t-test to verify.

T(175) = .059796, p<.05

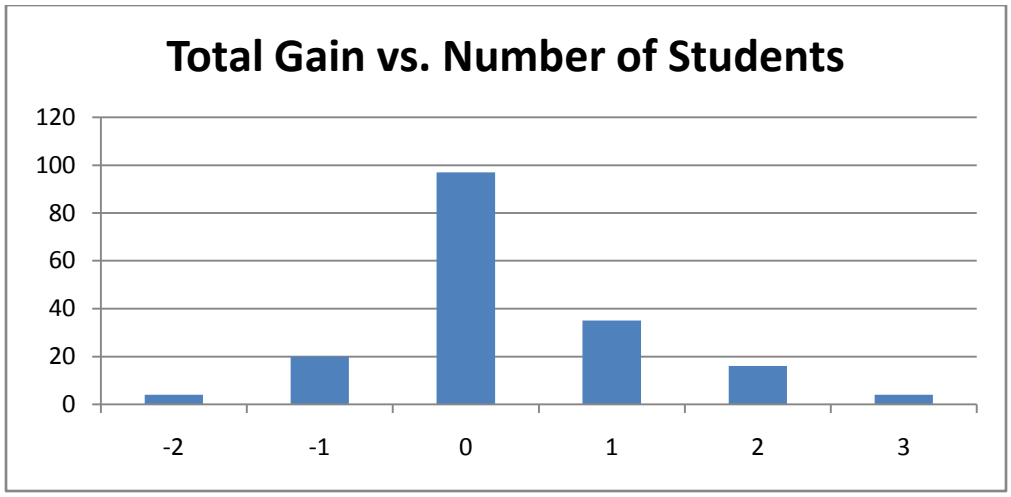
Although our p-value is very close to 0.05 we do not have sufficient evidence to reject the two samples being drawn from the same population.

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students

who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as “learning”.

Total Gain Score	Number of Users
-2	4
-1	20
0	97
1	35
2	16
3	4
Grand Total	**176**



The graph shows that the majority of the gain scores was 0, but the balance is shifted towards the positive side indicating there was a positive gain for this data set.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test. First we remove those students who did not complete the pretest and the posttest.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Gain	136	.3824	1.00413	.08610

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
VAR00005	4.441	135	.000	.38235	.2121	.5526

This t-test, with a value of less than T(135) <.001, $p < .05$, indicates that there was indeed overall learning or unlearning, and based upon the mean difference and the confidence interval, it can reliably be concluded that there was overall learning.

Learning from Worked Examples vs. Hints

Our initial experiment was to see whether Hints or Worked Examples was a better form of teaching students. After checking for even distribution of problems and IRT scores to make sure that more intelligent students did not receive one type of problem set over the others we had to check to make sure that there was overall learning for this experiment to be valid.

Now our analysis of the two teaching styles occurs. For this portion of the data analysis we took away all students who had no chance of learning, those who received a perfect score on the pretest, and only evaluated those who completed the tests.

Looking at the distribution of scores separated by type of problem shows very similar results. There were more hints than worked example problems given so the total number of participants shows to be unequal.

After looking at the distribution of gain scores for Hints and Worked Examples we looked at the average scores and compared them with a t-test to make sure they were reliably different.

	Average Gain Between Hints and Worked Examples	
Condition	**Sample Size**	**Average of Total Gain**
Hints	55	0.654545455

WE	34	0.882352941
Grand Total	**89**	**0.741573034**

There is a noticeable difference between the average of total gain score that leans towards worked examples showing a greater gain, but we must do a ttest to verify that the two numbers are significantly different.

The t-test returns the value T(88)= .301926, p < .05, indicating that there is a 30% probability that these samples were drawn from the same data set. Thus, it cannot be reliably said that one method is better than the other in this problem set.

Problem Set 5083

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

	Hints	WE	Number of Users
Below Average IRT	165	41	206
Above Average IRT	156	49	205
Number of Users	**321**	**90**	**411**

Note the disparity in overall distribution of hints vs. worked examples: hints have over three times as many student participants as worked examples. The general distribution between above average and below average IRTs is very close, however.

To make sure that the data was reliably the same we did a t-test to verify this by testing whether it was drawn from the same data set.

The t-test of student IRTs split between hints and worked examples returned the value T(410)= .131205, $p < .05$, indicating we do not have enough evidence against that these samples were drawn from the same data set.

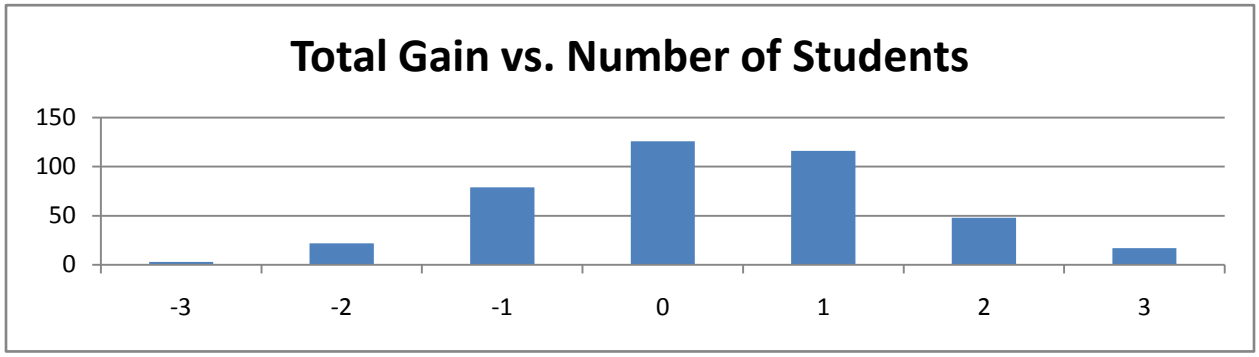
-100%

T(340)= 0.174278

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as "learning".

Total Gain Score	Number of Users
-3	3
-2	22
-1	79
0	126
1	116
2	48
3	17
Grand Total	**411**



The distribution of gain above shows that there were more data points in the positive gain region as opposed to the negative gain region, indicating that there may have been overall learning.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test.

Number of Users	Average of Total Gain
411	0.318734793

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Gain	411	.3187	1.22300	.06033

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Gain	5.284	410	.000	.31873	.2001	.4373

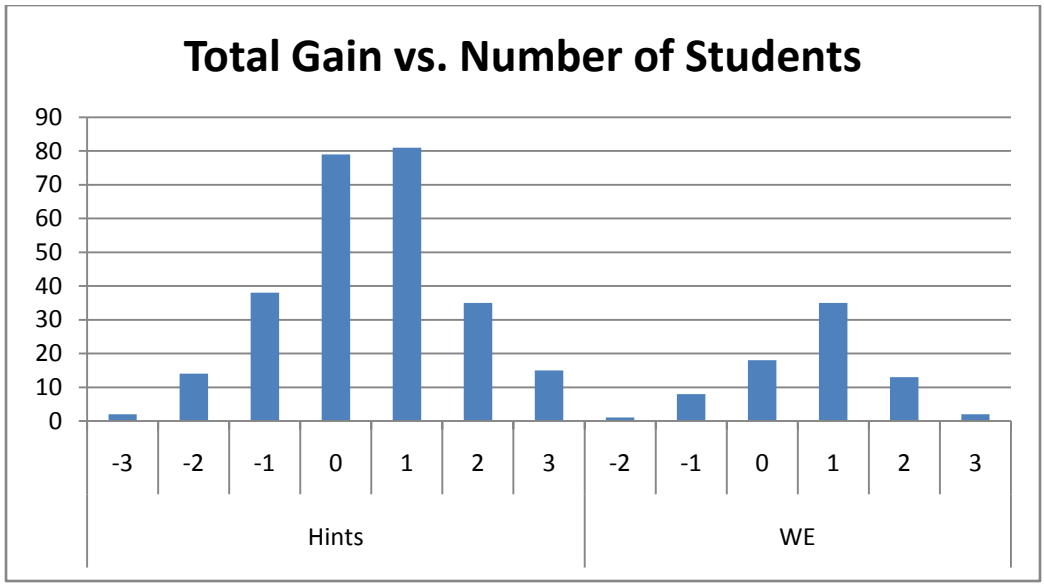
This t-test, with a value of less than T(410) <.001, $p < .05$, indicates that there was indeed overall learning or unlearning, and based upon the mean difference and the confidence interval, it can reliably be concluded that there was overall learning.

Learning from Worked Examples vs. Hints

Our initial experiment was to see whether Worked Examples was a statistically better form of teaching students compared to hints. After checking for even distribution of problems and IRT scores to make sure that more intelligent students did not receive one type of problem set over the others we had to check to make sure that there was overall learning for this experiment to be valid.

Now our analysis of the two teaching styles occurs. For this portion of the data analysis we took away all students who had no chance of learning- those who received a perfect score on the pretest, and only evaluated those who completed the tests.

Total Gain Score	Number of Users
Hints	**264**
-3	2
-2	14
-1	38
0	79
1	81
2	35
3	15
WE	**77**
-2	1
-1	8
0	18
1	35
2	13
3	2
Grand Total	**341**



The graph of gain above shows that the +1 column for both hints and worked examples is larger than the 0 column, but the difference is much more pronounced on the worked examples side, suggesting that worked examples were more successful in promoting learning for this problem set.

After looking at the distribution of gain scores for Hints and Worked Examples we looked at the average scores and compared them with a t-test to make sure they were reliably different.

Total Gain Score	Number of Users	Average of Total Gain
Hints	264	0.46969697
WE	77	0.74025974
Grand Total	**341**	**0.530791789**

The t-test returns the value T(340)= 0.081494, $p < .05$, indicating that there is an 8% probability that these samples were drawn from the same data set. Thus, it cannot be reliably said that one method is better than the other in this problem set.

Problem Set 5084

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

	Hints	WE	Number of Users
Below Average IRT	84	60	144
Above Average IRT	50	50	100
Number of Users	**134**	**110**	**244**

The distribution between hints and worked examples is fairly balanced, with a slightly higher population in hints. This data set is also made up of more students with lower than average IRTs than those with higher than average IRTs.

To make sure that the data was reliably the same we did a t-test to verify this by testing whether it was drawn from the same data set.

The t-test of student IRTs split between hints and worked examples returned the value $T(243)= .325414$, $p < .05$, reliably indicating that these samples were drawn from the same data set.

-100%

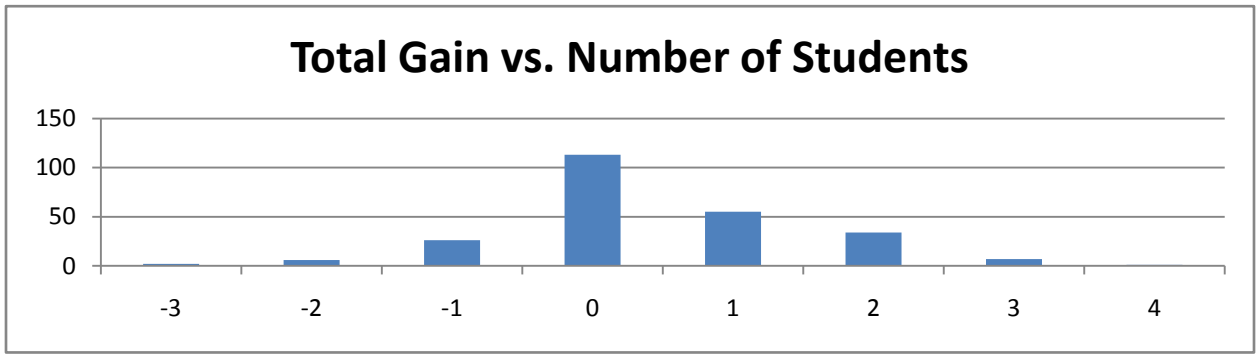
T(230)= 0.523443

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students

who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as “learning”.

Total Gain Score	Number of Users
-3	2
-2	6
-1	26
0	113
1	55
2	34
3	7
4	1
Grand Total	**244**



The distribution of gain above shows that there were more data points in the positive gain region as opposed to the negative gain region, indicating that there may have been overall learning.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test.

Number of Users	Average of Total Gain
244	0.426229508

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean

Gain	244	.4262	1.09933	.07038

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Gain	6.056	243	.000	.42623	.2876	.5649

This t-test, with a value of less than T(305) <.001, $p < .05$, indicates that there was indeed overall learning or unlearning, and based upon the mean difference and the confidence interval, it can reliably be concluded that there was overall learning.

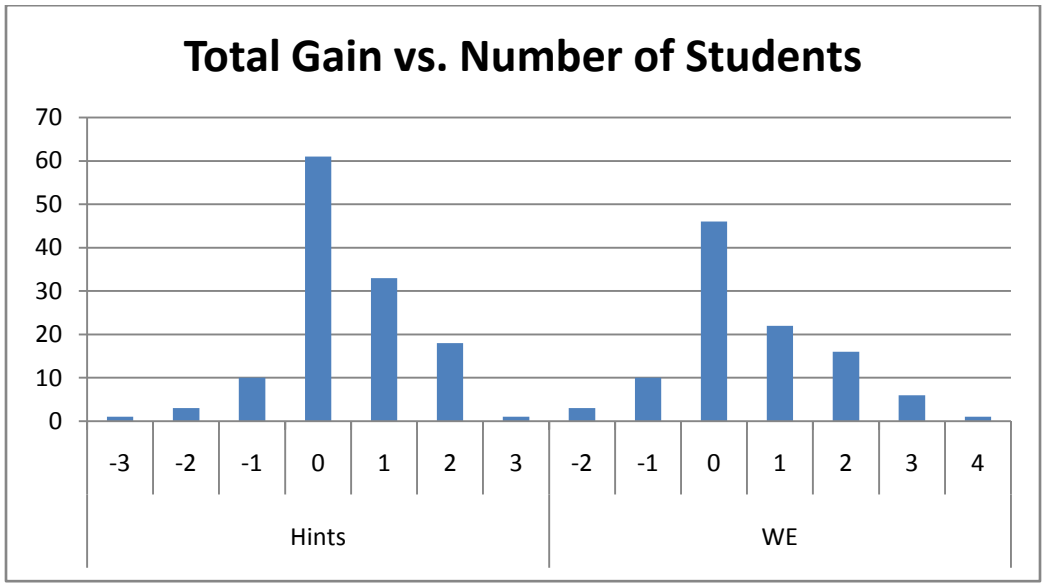
Learning from Worked Examples vs. Hints

Our initial experiment was to see whether Worked Examples was a statistically better form of teaching students compared to hints. After checking for even distribution of problems and IRT scores to make sure that more intelligent students did not receive one type of problem set over the others we had to check to make sure that there was overall learning for this experiment to be valid.

Now our analysis of the two teaching styles occurs. For this portion of the data analysis we took away all students who had no chance of learning- those who received a perfect score on the pretest, and only evaluated those who completed the tests.

Total Gain Score	**Number of Users**
Hints	**127**
-3	1
-2	3
-1	10
0	61
1	33
2	18
3	1
WE	**104**

-2	3
-1	10
0	46
1	22
2	16
3	6
4	1
Grand Total	**231**



The gain scores between the two groups appear very similar, so we will have to look more closely at the data values to determine whether one way or another is better for promoting learning in this problem set.

After looking at the distribution of gain scores for Hints and Worked Examples we looked at the average scores and compared them with a t-test to make sure they were reliably different.

	Number of Users	Average of Total Gain
Hints	127	0.417322835
WE	104	0.576923077
Grand Total	**231**	**0.489177489**

The t-test returns the value T(270)= 0.26423, p < .05, indicating that there is a 26% probability that these samples were drawn from the same data set. Thus, it cannot be reliably said that one method is better than the other in this problem set.

Problem Sets 5089

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

Row Labels	Hints	WE	Grand Total
Below Average IRT	36	41	77
Above Average IRT	31	22	53
Grand Total	**67**	**63**	**130**

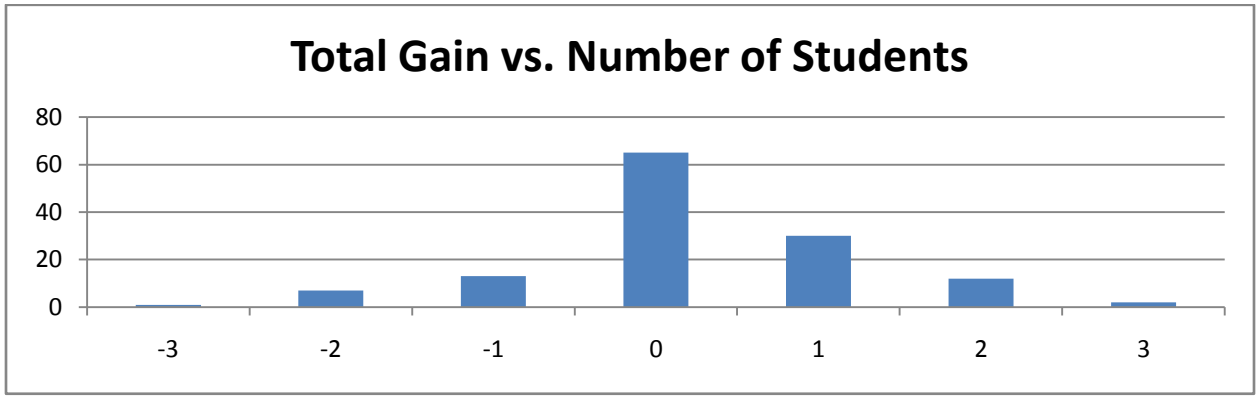
It appears that the total number of hints was about the same as worked examples, but to make sure that the data was reliably the same we did a t-test to verify.

The t-test of student IRTs split between hints and worked examples returned the value T(129)= . 0.525029, p < .05, reliably indicating that these samples were drawn from the same data set.

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as "learning".

Total Gain Score	Number of Users
-3	1
-2	7
-1	13
0	65
1	30
2	12
3	2
Grand Total	**130**



The graph shows that the majority of the gain scores was 0, but the balance is shifted towards the positive side indicating there was a positive gain for this data set.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test.

Number of Users	Average of Total Gain
130	0.230769231

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean

gain	130	.2308	1.03832	.09107

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
gain	2.534	129	.012	.23077	.0506	.4109

This t-test, with a value of less than T(129) =.012, $p < .05$, indicates that there was indeed overall learning or unlearning, and based upon the mean difference and the confidence interval, it can reliably be concluded that there was overall learning.

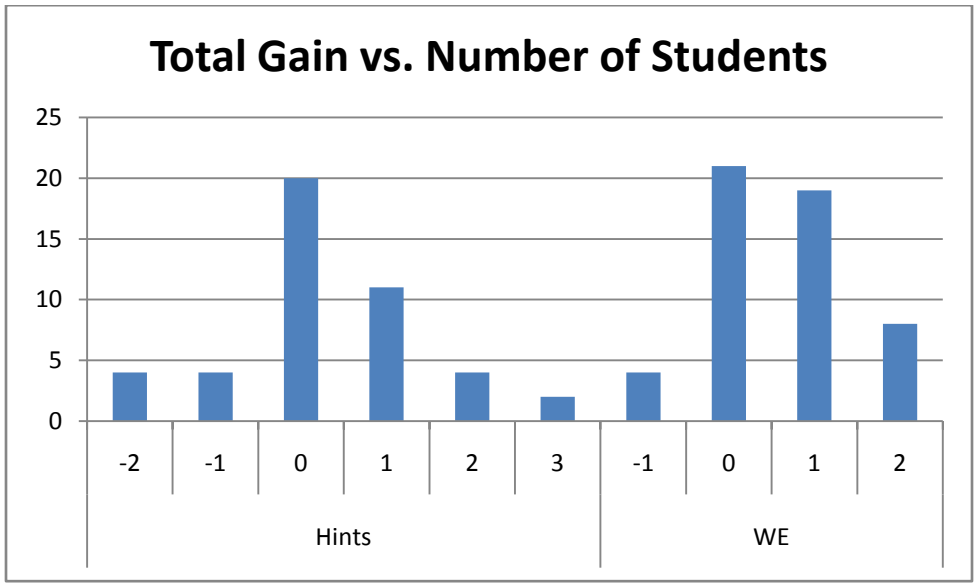
Learning from Worked Examples vs. Hints

Our initial experiment was to see whether Hints or Worked Examples was a better form of teaching students. After checking for even distribution of problems and IRT scores to make sure that more intelligent students did not receive one type of problem set over the others we had to check to make sure that there was overall learning for this experiment to be valid.

Now our analysis of the two teaching styles occurs. For this portion of the data analysis we took away all students who had no chance of learning, those who received a perfect score on the pretest, and only evaluated those who completed the tests.

Total Gain Score	Number of Users
Hints	**45**
-2	4
-1	4
0	20
1	11
2	4
3	2
WE	**52**
-1	4

0	21
1	19
2	8
Grand Total	**97**



It appears that there was overall learning in both cases with worked examples having a higher total gain than hints.

After looking at the distribution of gain scores for Hints and Worked Examples we looked at the average scores and compared them with a t-test to make sure they were reliably different.

	Number of Users	Average of Total Gain
Hints	45	0.288888889
WE	52	0.596153846
Grand Total	**97**	**0.453608247**

This data set seems to imply that worked examples is a better teaching method than hints, but we should do a t-test to verify.

The t-test returns the value $T(270)=0.140148$, $p < .05$, indicating that there is a 14% probability that these samples were drawn from the same data set. Thus, it cannot be reliably said that one method is better than the other in this problem set.

Problem Sets 5090

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

	Hints	WE	Grand Total
Below Average IRT	57	12	69
Above Average IRT	36	11	47
Grand Total	**93**	**23**	**116**

It appears that the total number of hints was significantly higher than worked examples, but to make sure that the data was not reliably the same we did a t-test to verify.

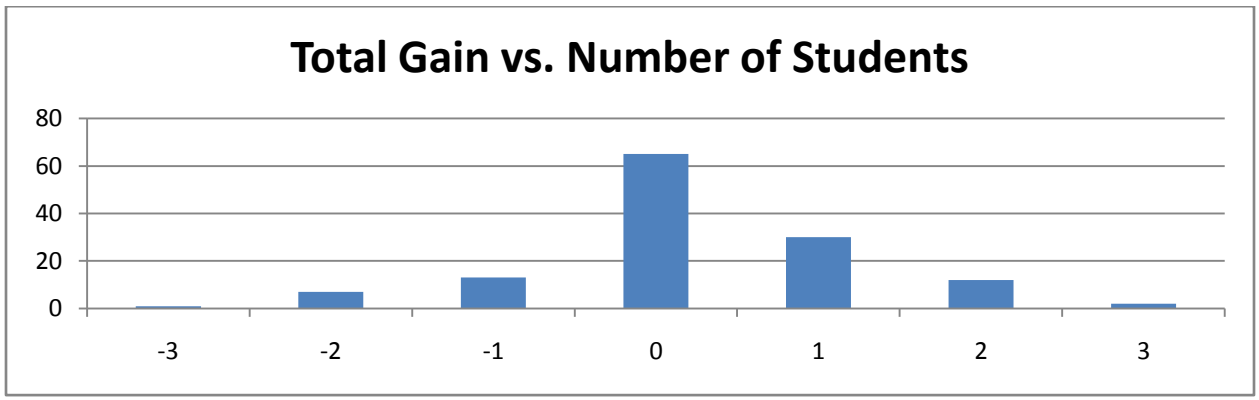
The t-test of student IRTs split between hints and worked examples returned the value $T(92)= 0.10467$, $p < .05$, reliably indicating that these samples were drawn from the same data set.

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as "learning".

Total Gain Score	Number of Users
-3	2
-2	5
-1	17
0	58
1	28

2	4
3	2
Grand Total	**116**



The graph shows that the majority of the gain scores was 0, but the balance is shifted towards the positive side indicating there was a positive gain for this data set.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test.

Number of Users	Average of Total Gain
116	0.077586207

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
gain	116	.0776	1.00564	.09337

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
gain	.831	115	.408	.07759	-.1074	.2625

This t-test, with a value of less than T(115) = .408, $p < .05$, indicates that there was indeed overall learning or unlearning, and based upon the mean difference and the confidence interval, it cannot be reliably concluded that there was overall learning, and we stop the data analysis here.

Problem Sets 5091

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

Row Labels	Hints	WE	Grand Total
Below Average IRT	27	20	47
Above Average IRT	20	23	43
Grand Total	**47**	**43**	**90**

It appears that the total number of hints was about the same as worked examples, but to make sure that the data was reliably the same we did a t-test to verify.

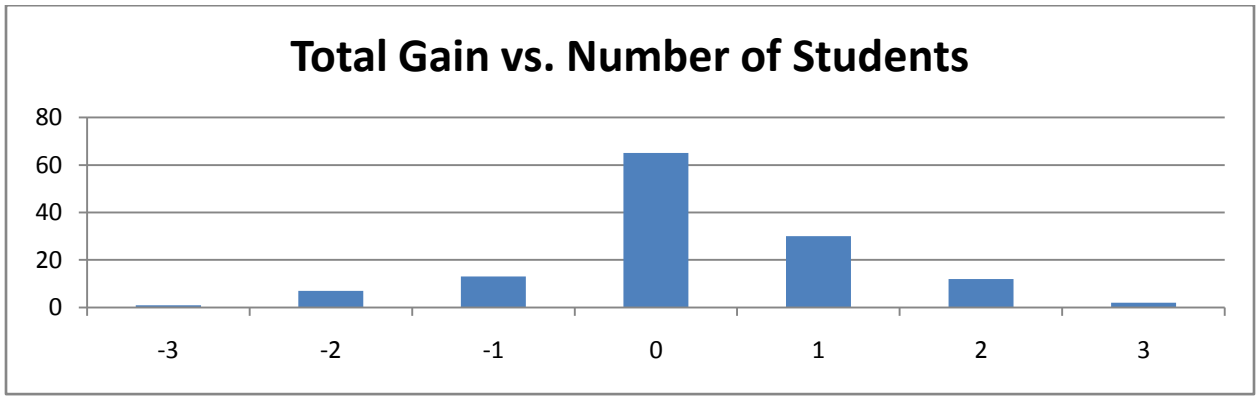
The t-test of student IRTs split between hints and worked examples returned the value $T(243)= 0.578159$, $p < .05$, reliably indicating that these samples were drawn from the same data set.

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as "learning".

Total Gain Score	Number of Users
-3	1
-2	4

-1	15
0	35
1	25
2	10
Grand Total	**90**



The graph shows that the majority of the gain scores was 0, but the balance is shifted towards the positive side indicating there was a positive gain for this data set.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test.

Number of Users	Average of Total Gain
90	0.211111111

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Gain	90	.2111	1.06523	.11228

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Gain	1.880	89	.063	.21111	-.0120	.4342

This t-test, with a value of less than $T(89) = .063$, $p < .05$, indicates that there no conclusive evidence to support overall learning or unlearning, and based upon the mean difference and the confidence interval, it cannot reliably be concluded that there was overall learning.

Problem Set 5095

Here we will analyze problem set 5095, included with the topics of Filling and Wrapping, according to the method describes previously.

Checking for Equality Between Hints and Worked Examples

Prior to checking for the equality between hints and worked examples, we will test for the randomization of the computer concerning student IRT number.

Number of students whose IRT number is not available or who are invalid: 54

Analyzing for computer randomization concerning student IRT number

We first show the table displaying the distribution of the students based on whether their IRT number is above average relative to the average IRT number of the sample.

Count of hints or worked examples assigned			
	Hints	**WE**	**Total**
Below Average IRT Number	176	103	279
Above Average IRT Number	103	87	190
Grand Total	**279**	**190**	**469**

There are many differences apparent from the above figure. First, a much larger percentage of the students were assigned to Hints as compared to worked examples. Also, there many students who have a below average IRT Number, where the average is defined by the average IRT number of the students in our sample, hints and worked examples combined. Since the condition on the IRT number in

the above figure only serves to provide an overview and is not in itself significant, we need to provide further testing.

Analyzing the Student IRT number distribution with all students

Distribution of Hints vs. worked examples				
Condition	**Average**	**Standard dev.**	**Variance**	**Count**
Worked Ex.	0.631559637	1.196370252	1.43130178	190
Hints	0.445774007	1.043710652	1.089331925	279
Grand Total	**0.521038974**	**1.110605066**	**1.233443612**	**469**

From the table above, we see that the students assigned to worked examples have a higher mean IRT number as well as a higher standard deviation when compared to those students who were assigned to hints. This means that the distribution of the IRT number for students in worked examples was more spread out than in hints, which correlates into a broader range of students who were assigned to worked examples.

$T(468) = .075302 , p < .05$

Stated another way, there is a 7.5302% chance of obtaining a mean difference of means at least as large as our statistic. Since this p value is greater than 0.05, our threshold for this analysis, we do not have sufficient evidence to reject the null hypothesis. We do however, not feel very confident that the students assigned to hints were sampled from the same population as those assigned to worked examples.

Analyzing for distribution of Student IRT numbers complete students only

There are 97 students who did not finish both tests, and so we will eliminate them from the samples.

The figure below shows the analysis of the subset of students who completed both tests.

Distribution of Hints vs. worked examples complete only (Student IRT Number)				
Condition	**Average**	**Standard deviation**	**Variance**	**Sample Size**
Hints	0.466751411	1.039642209	1.080855923	224
WE	0.636608163	1.207589142	1.458271535	147
Grand Total	**0.534053143**	**1.110757235**	**1.233781636**	**371**

From the table we can see that again the average IRT of students who completed worked examples is higher than those who completed hints. Also, like distribution of IRT numbers for students in worked examples is more spread out than in those students who took the hints path. To see if there is any reason to reject that the two samples are drawn from the same population we will again perform a t-test.

$T(370) = 0.149937218$, $p < .05$

Since our p-value is greater than 0.05, there is not sufficient evidence to reject the null hypothesis. In other words, there is roughly a 15% chance that taking a sample from this population will give us a t-value at least as extreme as the one observed.

Analyzing Pretest Average

The figure below shows the average and sample size of those students who completed the pretest and posttest and who also have a valid student IRT number.

Pretest Average: Hints vs. Worked Examples		
Condition	**Average of Pretest**	**Count of Pretest**
Hints	0.62202381	224
WE	0.62585034	147

Grand Total	**0.623539982**	**371**

From visual inspection, the average pretest score for both hints and worked examples is roughly 62% correct. This means that on the first appearance of the pretest questions, students on average get 2 out of 3 correct. This is perhaps even more significant than the student IRT number a since at first appearance of the questions, both groups will receive roughly the same number of questions.

$T(370) = 9144861$, $p < .05$.

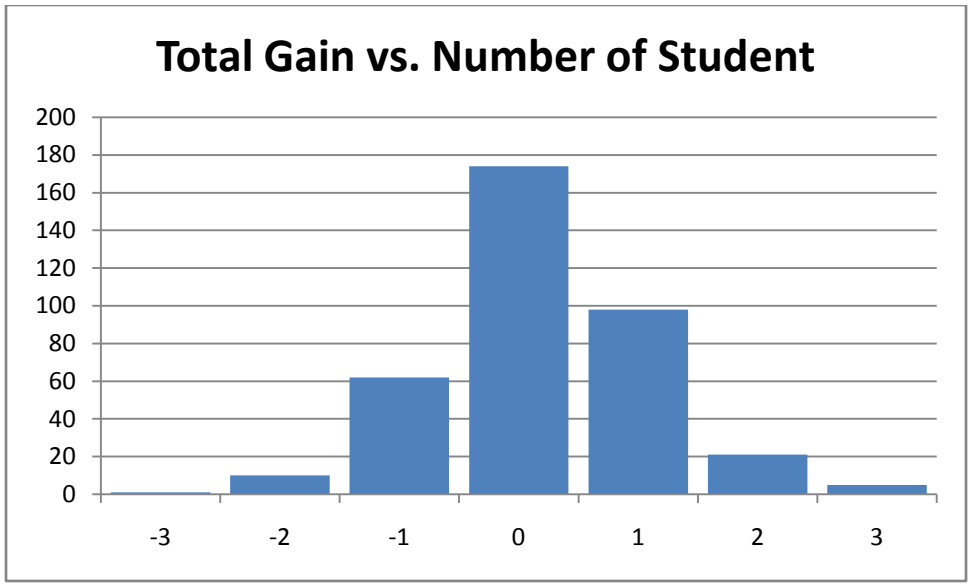
Our p-value is .9144861 which means there is not significance evidence to reject the null hypothesis and accept the alternative hypothesis. Thus we have to reason to believe with parameter being the pretest average that the populations from which the students who took hints came has a different mean from the population from which the students who took worked examples came. In fact, with such a large p-value, we can feel confident there is not supporting evidence for the alternative hypothesis. Since there is lacking evidence for these populations being different, we will analyze the overall learning and non-learning in each of these sets.

Overall Learning

Analyzing the Overall Gain

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as “learning”.

The following figure shows on the horizontal axis the possible gains for each student with the vertical axis representing the number of students who achieved that specific gain.



Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test. The following two figures display this information.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Gain	371	.1887	.93692	.04864

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Gain	3.879	370	.000	.18868	.0930	.2843

T(370) = <.001, p < .005

Since the p-value obtained is less than .05 (p<.001) we do have significant evidence to reject the null hypothesis. This means there is statistical evidence against there being no overall learning. We say there is learning since the mean is positive. This was our desired result, which shows through

ASSISTments problem set 5095 students are learning. We will now compare the mean learning of students who were given hints to those students who were given worked examples.

Learning from Worked Examples vs. Hints

Analyzing Learning for Hints and Worked Examples

Our initial experiment was to see whether Worked Examples was a statistically better form of teaching students compared to hints. After checking for even distribution of problems and IRT scores to make sure that more intelligent students did not receive one type of problem set over the others we had to check to make sure that there was overall learning for this experiment to be valid.

The figure below showing statistics concerning total gain for students who were given hints and students who were given worked examples.

	Statistics for Total Gain by Condition (all)		
Condition	**Average**	**Standard Dev.**	**Sample Size**
Hints	0.151785714	0.900521238	224
Worked	0.244897959	0.990308079	147
Grand Total	**0.188679245**	**0.936919121**	**371**

We remove all the entries who got all the pretest questions correct. This changes our sample data which is reflected in the following table.

	Statistics for Total Gain by Condition		
Condition	**Average**	**Standard Dev.**	**Sample Size**
Hints	0.258426966	0.957020918	178
WE	0.553191489	1.043330289	94

Grand Total	**0.360294118**	**0.995731066**	**272**

$T(271) = .019965, p < .05$

Our p-value obtained is .019965 which means we do have significant statistical evidence against the null hypothesis and hence we conclude worked examples is a better method for student learning. We can say that on average that worked examples have a higher average gain when compared to hints.

Problem Set 5096

Here we will analyze problem set 5096, included with the topics of Filling and Wrapping, according to the method describes previously.

Number of students whose IRT number is not available or invalid : 24

x.y.1 Checking for Equality Between Hints and Worked Examples

Prior to checking for the equality between hints and worked examples, we will test for the randomization of the computer concerning student IRT number.

Analyzing for computer randomization concerning student IRT number

We first show the table displaying the distribution of the students based on whether their IRT number is above average relative to the average IRT number of the sample.

Count of hints vs. worked examples assigned			
Condition	**Hints**	**WE**	**Total**
Below Average IRT Number	86	19	105
Above Average IRT Number	79	13	92
Grand Total	**165**	**32**	**197**

There are many differences apparent from the above figure. First, a much larger percentage of the students were assigned to Hints as compared to worked examples. However, the difference between above average IRT numbers and below average IRT numbers appears less in-balanced when compared within either hints or worked examples. Since the condition on the IRT number in the above figure only serves to provide an overview and is not in itself significant, we need to provide further testing.

Analyzing the Student IRT number distribution with all students

Distribution Statitistics for Student IRT number				
Condition of questions assigned	**Average**	**Standard Deviation**	**Variance**	**Sample Size**
Hints	0.906528606	1.238604519	1.534141154	165
WE	0.608577969	1.165362563	1.358069904	32
Grand Total	**0.858130533**	**1.229066875**	**1.510605384**	**197**

From the table above, we see that the students assigned to hints have a higher mean IRT number as well as a higher standard deviation when compared to those students who were assigned to worked examples. This means that the distribution of the IRT number for students in hints was more spread out than in worked examples, which correlates into a broader range of students who were assigned to worked examples. It is noteworthy to mention the sample size of those students who took worked examples is only 32, which is rather low considering some of these students may not have completed both the pretest and posttest and their results may be ignored prior to analyzing the data for learning.

$T(196) = .2103003 , p < .05$

Stated another way, there is a 21.03% chance of obtaining a mean that is at least as large (or as small in the negative direction) as our sample mean. Since this p value is greater than 0.05, our threshold for this analysis, we do not have sufficient evidence to reject the null hypothesis.

Analyzing for distribution of Student IRT numbers complete students only

There are 77 students who did not finish both tests, and so we will eliminate them from the samples.

The sample size of students who were given worked examples has decreased from 32 to 17. We do not have a large enough sample size to test whether there is a difference in overall learning between

those students in hints against those students in worked examples. We can however analyze the remaining students together for average overall learning.

The figure below shows the analysis of the subset of students who completed both tests.

Distribution of Hints vs. worked examples complete only (Student IRT number)				
Condition	**Average**	**Standard Deviation**	**Variance**	**Sample Size**
Hints	0.839575612	1.214376194	1.474709541	103
WE	0.785435765	1.3368156	1.787075948	17
Grand Total	**0.8319058**	**1.226652061**	**1.50467528**	**120**

The important column in the above figure is the bottom row since we will not be analyzing the two samples separately.

We will also normally check the pretest averages for these students which is important since students have different strengths in different areas of mathematics. However, since there are now only 17 students in worked examples, I will not be comparing the two samples against one another and hence this step can be skipped. We will now proceed with analyzing for the overall average gain. The following figure shows on the horizontal axis the possible gains for each student with the vertical axis representing the number of students who achieved that specific gain.

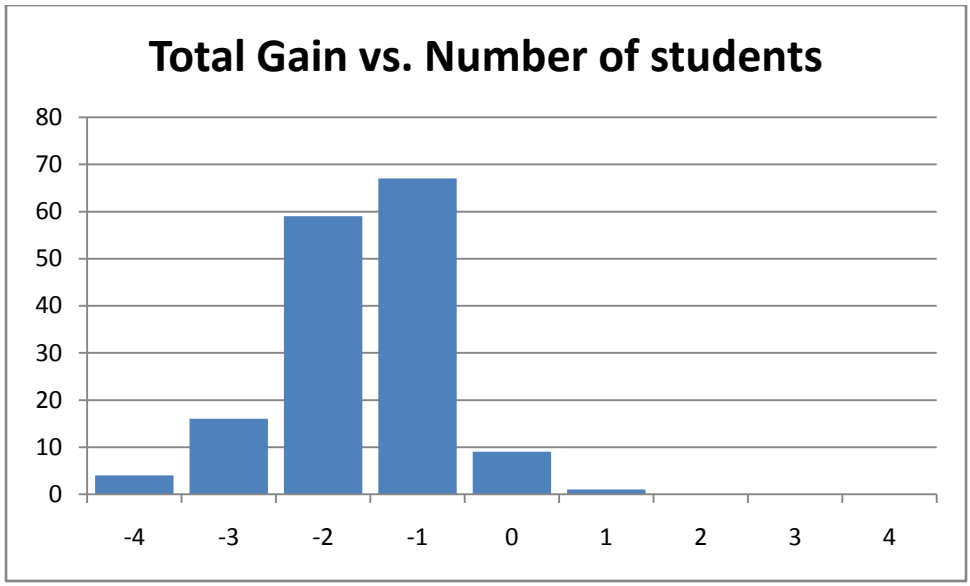
Analyzing Pretest Average

Since our sample size for worked examples is 17, we will not compare the two groups and this step is not needed.

Overall Learning

Analyzing the Overall Gain

In order to check whether or not overall learning occurred, we will show the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as "learning". The following figure shows on the horizontal axis the possible gains for each student with the vertical axis representing the number of students who achieved that specific gain.



The following figures give information concerning our t-test for overall gain.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
VAR00002	120	.2250	1.02459	.09353

One-Sample Test

	Test Value = 0

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
VAR00002	2.406	119	.018	.22500	.0398	.4102

T(119) = .018, p < .05

Since the p-value obtained is less than .05 we do have significant evidence to reject the null hypothesis. This means there is statistical evidence against there being no overall learning. This was our desired result, which shows through ASSISTments problem set 5096 students are learning. Sadly due to sample size, we are not able to see if there is a difference in learning between students who received hints and students who received worked examples.

Learning from Worked Examples vs. Hints

Analyzing Learning for Hints and Worked Examples

Since our sample size for worked examples is only 17, we will not analyze for a difference in learning between hints and worked examples.

Combined Data Analysis

Problem Sets 5089 5083, 5084, 5095, 5096, 5078, 5090, 5091, 5068, 5077

Checking for Equality Between Hints and Worked Examples

The first step we took in analyzing our data was to compare the number of students received hints to the number of students who received worked examples and the student's average IRT in order to assess whether there was an even distribution between the two conditions.

Row Labels	Hints	WE	Grand Total
Below Average IRT	827	489	1316
Above Average	606	370	976

IRT			
Grand Total	**1433**	**859**	**2292**

To make sure that the data was reliably the same we did a t-test to verify.

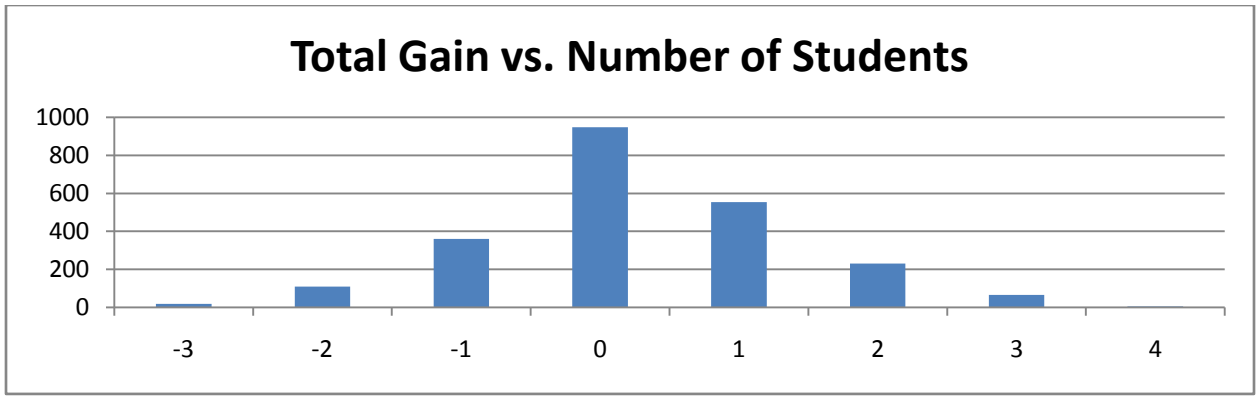
$T(2291)=0.06996$, $p < .001$

The t-test shows that there is only a 7% chance that these sets are related, suggesting that the problems were not evenly distributed to the students. However, because the t-test value is above 5%, we cannot say conclusively that this is the case.

Overall Learning

In order to check whether or not overall learning occurred, the next data set and graph shows the distribution of the total gain for each student. A negative score represents students who got questions in the pretest right and questions in the posttest wrong. A positive score represents students who incorrectly answered questions on the pretest and correctly answered the corresponding question on the posttest correctly; this is what we labeled as “learning”.

Gain Score	Number of Users
-3	19
-2	110
-1	360
0	947
1	554
2	231
3	66
4	5
Grand Total	**2292**



The graph shows that the data is more toward the positive side of the chart, indicating that there was an average net positive gain for all problem sets.

Next we looked at the average total gain score and checked if it was reliably different from zero with a t-test.

Number of Users	Average of Total Gain
2292	0.260471204

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Gain	2292	.2605	1.13811	.02377

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Gain	10.957	2291	.000	.26047	.2139	.3071

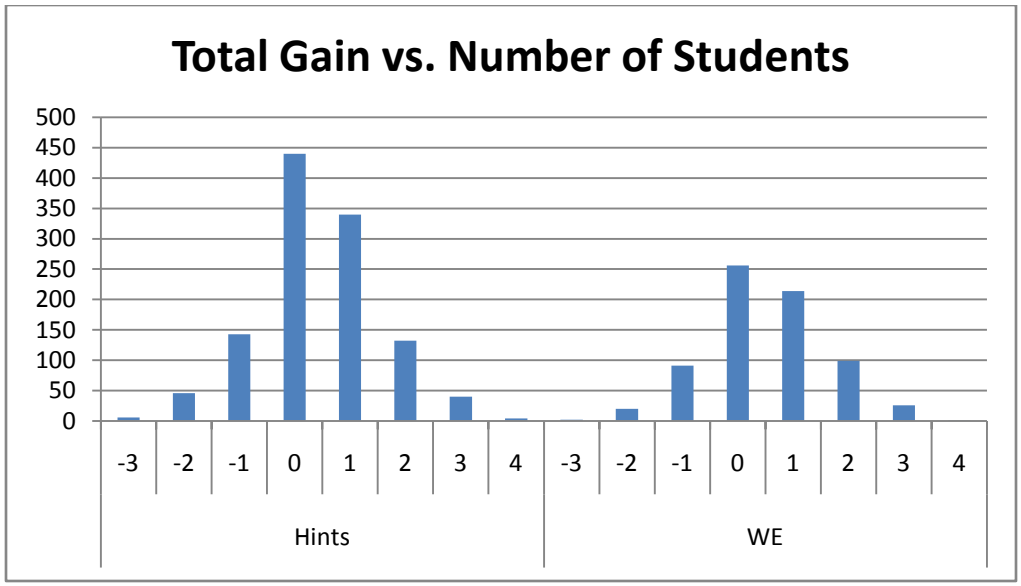
The average total gain is reliably different from zero, with the mean difference of .26047 and the lower confidence interval well above zero. This indicates that overall, there was learning

Learning from Worked Examples vs. Hints

Our initial experiment was to see whether Worked Examples was a statistically better form of teaching students compared to hints. After checking for even distribution of problems and IRT scores to make sure that more intelligent students did not receive one type of problem set over the others we had to check to make sure that there was overall learning for this experiment to be valid.

Now our analysis of the two teaching styles occurs. For this portion of the data analysis we took away all students who had no chance of learning, those who received a perfect score on the pretest, and only evaluated those who completed the tests.

Total Gain Score	Number of Users
Hints	**1151**
-3	6
-2	46
-1	143
0	440
1	340
2	132
3	40
4	4
WE	**709**
-3	2
-2	20
-1	91
0	256
1	214
2	99
3	26
4	1
Grand Total	**1860**



While it may be hard to judge due to the disparate sample size, it appears that overall, hints may net more gain, but based on the comparative samples, worked examples provide more benefit per student than hints do.

After looking at the distribution of gain scores for Hints and Worked Examples we looked at the average scores and compared them with a t-test to make sure they were reliably different.

Average Gain between hints and WE	**Number of Users**	**Average of Total Gain**
Hints	1151	0.423110339
WE	709	0.503526093
Grand Total	**1860**	**0.453763441**

T(1859)=0.133227, p < .001

With a t-test value over .05, it cannot be determined conclusively whether worked examples are statistically different than hints for student learning, but by the average gain, there is weak evidence suggesting that this may be the case.

5. Conclusion

5.1 Discussion of our Experiment

If our hypothesis were to be true, it would mean that tutoring systems including even individual classroom teachers may see a benefit by switching to demonstrating a problem by showing how to solve a similar problem, rather than guiding the student along. This has many advantages as well as a few disadvantages which we shall now discuss. The original questions and their morphs used in the study follow the same structure, which means that if a student cannot solve one problem, it is unlikely without help that they will be able to solve its morph. By giving a worked example, the student is effectively learning to mimic what is displayed, which can create a dependency on students believe they can change a few numbers or words to arrive at the same underlying problem. If problems are later given in which the student needs to discover the path to the solution themselves, they may not know how to approach the problem.

Although this is one determent to worked examples, there are numerous advantages to worked examples. The student learns how to manipulate data that is presented to them to solve a similar problem. The actual manipulation and drawing of connections between multiple problems is a valuable skill. Secondly, hints are designed to guide the student down one particular path of thinking. If there is one particular part of a problem the student is unsure on, the student may have to go through multiple hints which are of no help until they find the one that is helpful. With having a full example before the student, it is possible for the student to search for the missing piece of information.

The possible directions for future research can be to analyze the overall gain based on the student IRT number. In our experiment, we were comparing based upon if the student was assigned to hints or worked examples, while only having to fulfill certain requirements concerning the distribution of IRT numbers. In a few of our experiments, the average IRT number assigned to the worked examples group

was higher, which could be due to a relationship between high IRT number and a higher overall gain, referred to as learning.

Other research areas can focus on the assumptions used in this paper. The time that students spend with hints can be compared to the time they spend looking at a worked out example. This could help to provide insight into whether it is more likely for a student to not finish a problem set if they are in a specific group. It may also be used to compare overall gain to time spent on problems. The other assumption that could be checked is whether the overall difficulty of the original questions and its morph are equivalent. If it is apparent that one question is considerably harder, the two questions can be analyzed for the reason why one is harder. This may provide insight into the role of the context of a question plays in a student understanding the question.

Through this analyzing we noticed a trend. Our data from the overall analysis shows that there was a disparate between the distribution of worked examples and hints to the students. Only about a third of the students received worked examples while the other two thirds of the students received hints.

5.2 Conclusion of Our Hypothesis

The initial purpose of our experiment was to provide evidence to the claim that worked examples are a statistically different way of learning when compared to hints. The evidence collected through the previous studies found this not to be the case. We did however find there was overall learning.

From our data analysis the average total gain for the students was .2605 per problem set which, through a t-test, was found to be reliably different from zero. From this data we were able to conclude that there was actual learning from the ASSISTment program. This analysis took the probability of a student guessing a correct answer on the posttest after incorrectly answering the pretest. Thus the average overall gain is a measure of learning as opposed to the summation of learning and guessing.

Different data sets yielded different results for which teaching style worked best, worked examples or hints, but the overall data analysis showed a slight lead for total learning gain for the students who received worked examples. The average total gain for hints was .4231 while total gain for worked examples was .5035. A t-test on this data showed that they were not reliably different. With a p-value over .05 at .13 we were not able to conclude that there was a difference between worked examples and hints for the students as a whole. Therefore we must reject our original hypothesis that learning through worked examples is different than learning through hints.

Appendix A ASSISTment Support Wiki Content

Getting Started as a Teacher

This section details the process for setting up a teacher account and a class.

Creating a Teacher Account

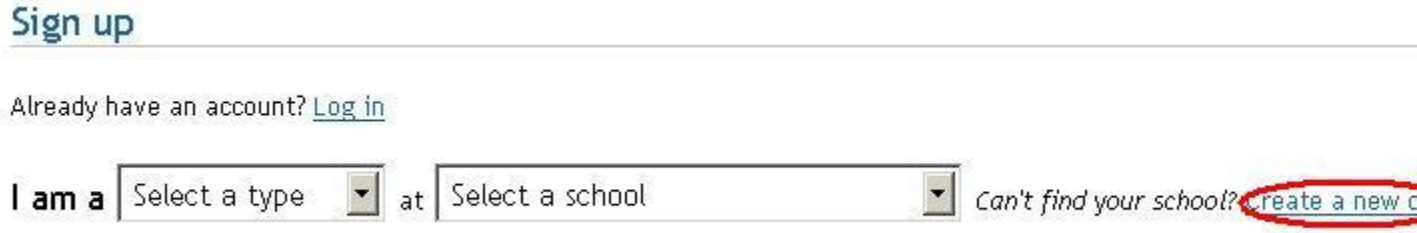
1. Log on to the internet. From there, navigate to The ASSISTments Main Page

2. Select “Click here for main server”.

3. Click on “Sign up”.

4. Select “Teacher” from the select a type box and the name of your school from the select a school box.

5. If your school is not in the list, you can create a new one by clicking the “Create a new one” link.

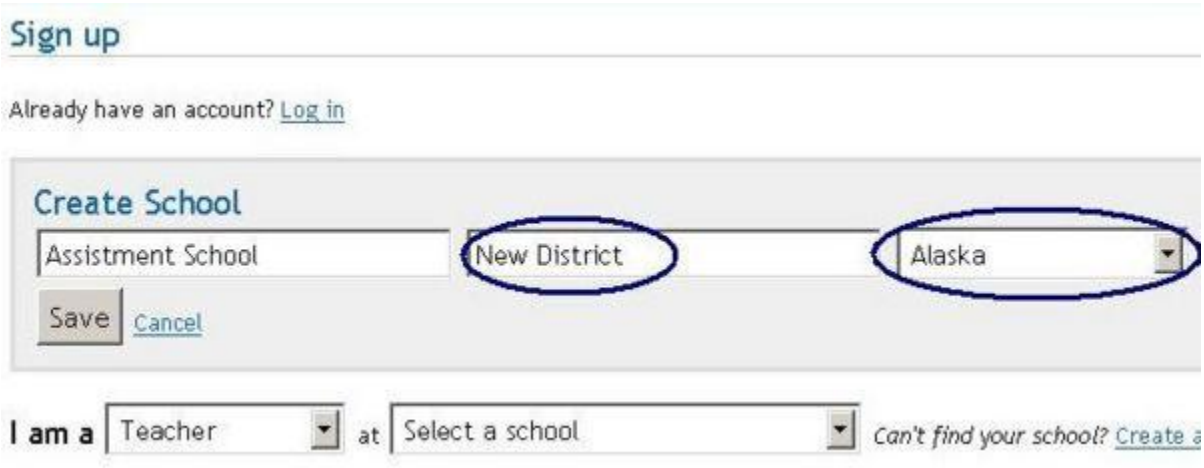


Creating a new school

1. Type in the name of your school (not the district name)
2. Select your district from the list.
    - If your district is not on the list, you can add it to the list by clicking the “Can’t find your district?” link

Creating a new district

1. Fill in the district name in the middle box and select your state from the drop down box.
2. Select Save.



Now that your school and district are created, select your school from the drop down list.

Creating a User

1. Fill in the e-mail address you wish to use.
    - This e-mail will be used for password resets.
    - It is recommended that you use your school e-mail address, if available.
    - If you do not have an e-mail address, select “I don’t have an email address” which will take you to a page to create a free e-mail account with Google Mail.
2. Next you enter in the password you wish to use.

- Making this an easy password is recommended, and it is unwise to use one of your common personal passwords or the password of your e-mail account, as you may wish to share this password with colleagues.

3. After entering your password, you must enter it again to confirm it.
4. Select Sign Up.

After signing up, a page is displayed where you can check your information and, if needed, edit the information by selecting "Edit Profile".

Creating a Class

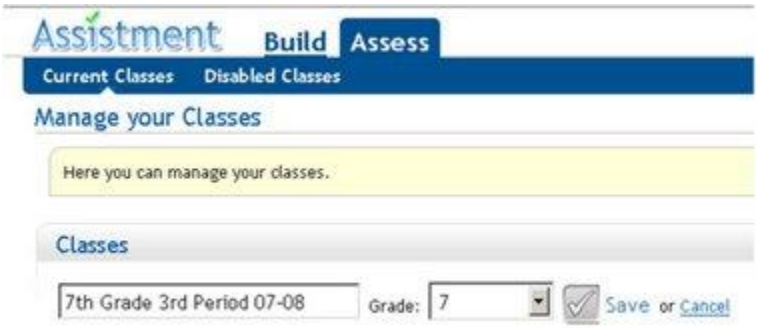
To Create a class

1. Select Assess at the top of the page, then Current Classes

2. Select “New Class”

3. Fill in the desired name for your class.

- A descriptive name is a good idea, such as the grade level, the period, and the year.



4. Then, select the grade level from the drop down list and Save.

- **Students enroll in your class after they create their student accounts**

Selecting the Curriculum

Currently, ASSISTments assigns the curriculum to a class based upon the grade level of that class. We have seperate curriculums for 6th, 7th and 8th grade as well as a curriculum for 9th and 10th grade.

Getting Started as a Student

Creating a student account

1. Log on to the internet. From there, navigate to www.ASSISTments.org.

2. Select “Click here for main server”.

3. Click on “Sign up”.

4. Select “Student” from the select a type box and the name of your school from the select a schoool box.

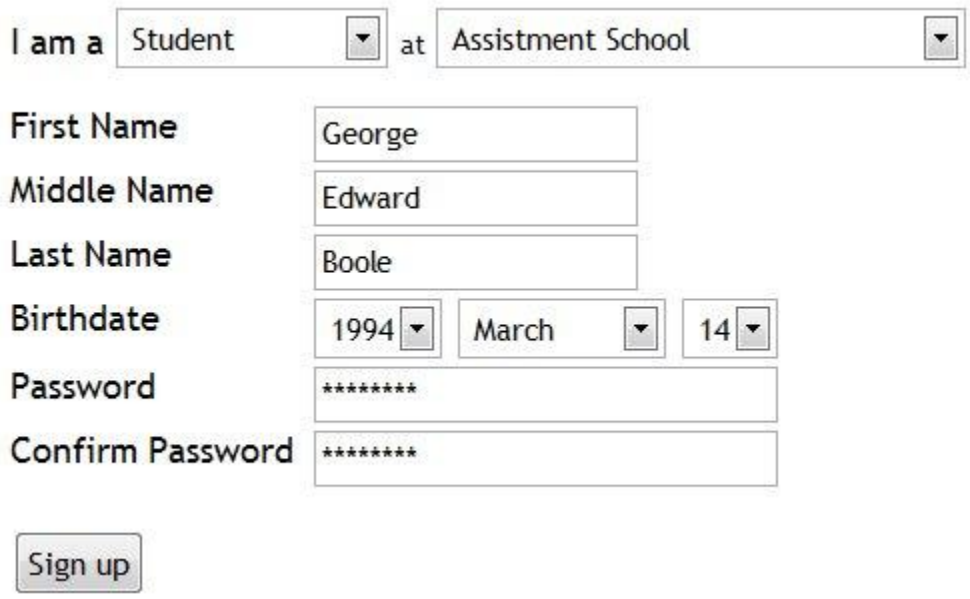
For example, this is an account for a student with the following information.

School: ASSISTment School

Name: George Edward Boole

Birth date: March 14, 1994

First, select that George Boole is a Student at ASSISTment School. Then, we fill in the information for George Boole.



When the student is done filling in their information, they should click upon the "Sign up" button. A new page will load that will show the information the student has entered as well as their new login.

You must write down your login in a safe place.

- Inside your agenda.
- On a sheet with everyones login name

If any field is incorrect, the student can click on "Edit profile" which is located under their login name.

Login: georgeeb0314

Have your students look at their Login name to remember it.

- Notice how it is in all lower case.

Login Names

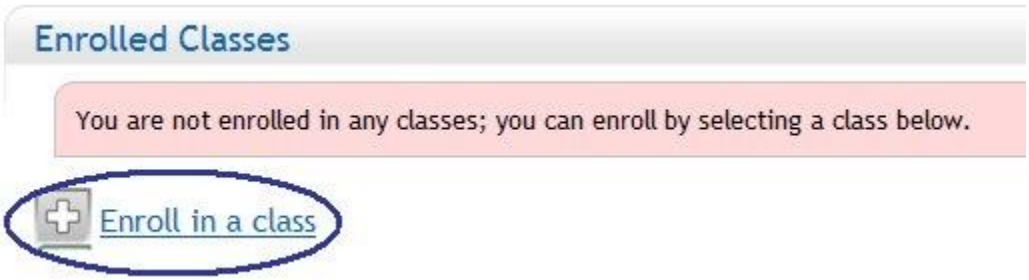
(first name)(middle name initial)(last name initial)(month of birth date)(day of month)

(george)(e)(b)(03)(14)

Enroll in a Class

At this time it is a good idea to have your students enroll in your class. 1. Click on the “Tutor” button on the top of the page. A new page will load. The red section says “You are not enrolled in any classes; you can enroll by selecting a class below.” If your student is already enrolled in one class, have them still follow the same instructions below.

2. Click on "Enroll in a class”.

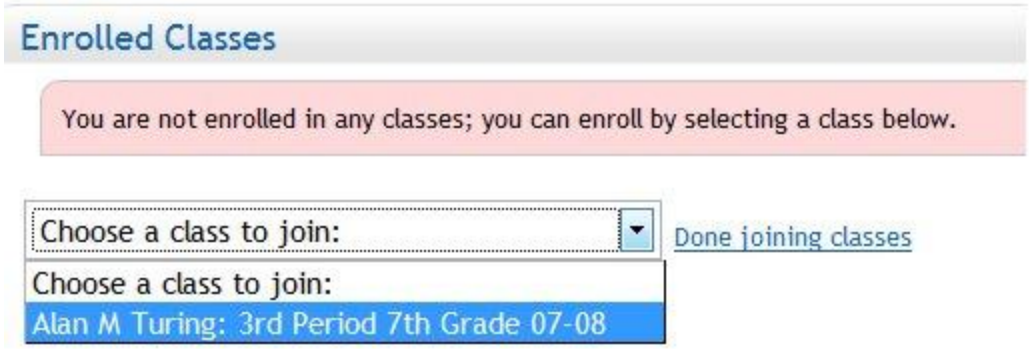


3. Click on the downward pointing arrow and then click on the class you wish to enroll it. After a few seconds, you will be enrolled in the class.

4. Then, click on “Done joining classes” to return to the previous page.

For our student, George Boole, lets join Alan M Turing 3rd Period 7th Grade class.

First hit the downward arrow, and then click on the blue section over Alan Turing's name.



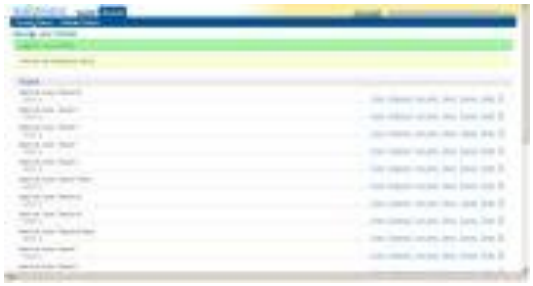
Once this is selected, a new page will load that will show that you are now enrolled in this class.

If you need to enroll in multiple classes, you can repeat this process for each class that you need to enroll in.

To start working with the curriculum assigned for the class, select the "Show Assigments" link.

Managing a Class

When you log in to ASSISTments after creating your classes, you should see a screen similar the one to the right.



The Teacher Class Selection Page (full size).

This is a listing of all of your classes that are currently active in the system.

The following selection options appear for each class:

Roster- Lists all the students in the class and allows you to change student passwords.

Assignments- Shows the assignments in the curriculum corresponding to the grade assigned to this class.

Item Report- Shows the student's average score for the problem set and results from each individual ASSISTment in the problem set. In addition, if the student got the question wrong, the Item Report shows the incorrect response. There is a link to each ASSISTment in the problem set.

Report- Shows who has started and/or finished any problem set that has been started by the class. Provides a link to the item report for each of these problem sets.

Summary- Shows number of problems done, number correct, % correct, total hints used, expected MCAS score, and Proficiency Level

Roster

The roster page shows the students enrolled in the class and the user name associated with each student.

An Example of the Roster Page for a Class

- Keep a print-out of this page in case students forget their login name.

There are 3 links connected to each student's name

Reset Password- Resets the student's password to a password of your choosing.

Progress- Tracks the student's progress in each assignment in the curriculum. This progress page is printable, and is helpful for parent-teacher conferences.

Trash can- Removes the student from the class.

Assignments

The assignments page shows the assignments in the curriculum for a class.

An Example of the Assignment Page for a Class

The assignments are numbered in the order they appear to the students. Next to each assignment is the status of the assignment: Not started, In progress, or Complete. There are 5 links connected to each problem set:

Progress- Opens a view of the status of each student on the assignment (Not started, In progress, Complete). Press progress again to close this view.

Preview- Experience a problem set as a student would see it, but no score is recorded.

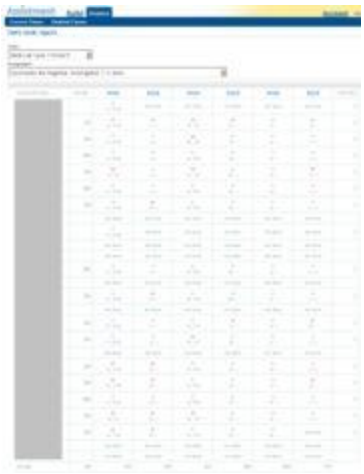
Grades- Shows the grades for each student on a given problem set. Also allows you to change the grades of students for individual problem sets.

Drag- Allows you to rearrange the order of problem sets within the curriculum

Trash can- Deletes a problem set from the curriculum

Item Report

Item report shows the information on each student for each ASSISTment question in an problem set.



An Example of the Item Report for a Problem Set

The first drop down box allows you to select the class you wish to look at, and the second drop down box lets you select the problem set.

When you select the problem set, the progress and scoring data for you class on that problem set is displayed.

First, there is the name of the student, then the average of the student on the entire problem set. For each ASSISTment problem, the students given answer is shown, as well as whether it is correct (+) or incorrect(x). The top row shows the ASSISTment number. Selecting this brings up a preview of the ASSISTment. The bottom shows the percent of the class who got the problem right. Looking for low percentage problems can help identify areas in which the class is weak.

Report

The Class Report allows the teacher to easily see how the class is performing on each problem set.

An Example of a Report for a Class

The dropdown box allows you to select a class.

The first column is a list of the students in the class.

The first row shows all problem sets that have been started by at least one student in the class. Each of these is a link to the item report for that problem set.

Here is a key for the symbols you will see:

50% The percent correct is given for any student that has finished the problem set.

A half filled circle is given if the student has started but not completed the problem set.

An empty circle is given if the student has not started the problem set.

Summary

The summary page shows the overall scores for each student in a class, either on all problem sets or on individual problem sets.

The dropdown boxes allow you to choose the class and problem sets.

An Example of the Summary for all Problem Sets for a Class

The first set of columns is the questions in the chosen problem set. The second set has the questions from the first set of columns and the scaffolding questions the students are given if an

ASSISTment is answered incorrectly. First listed are all the questions in the problem set that the student has answered, with the number of questions completed, number correct, percent correct, and a predicted MCAS score, as well as the proficiency level that would correspond to that score. MCAS prediction is most accurate when looking at all problem sets.

An Example of the Summary for an MCAS Problem Set

Advanced proficiency students are highlighted with a blue, while students that are predicted to get very low scores are marked in orange. Light blue or orange denotes a student one standard deviation away from the class average, while dark blue or orange denotes two standard deviations from the average. The next set of columns shows the student's overall performance with the scaffolding questions factored in, with total questions answered, number correct, percent correct, and total hints used. The second set of columns only differs from the first set of columns if the problem set includes scaffolding questions.

An Example of the Summary for an CMP Problem Set

Since CMP problem sets do not have scaffolding, the second set of columns does not differ from the first set.

The bottom of the page gives the average score for the class and the standard deviation.

Appendix B Java ASSISTment Analyzer

In this section we will discuss a Java program designed to analyze the initial data received from the ASSISTment database managers. The program will analyze the results of ASSISTments problem sets with input constrained due to security reasons and with limited formatting. First we will discuss the purpose of the analyzing of the data sets. Then we will discuss the format of the input, how the program manipulates the data, and the output of program and its agreement with the original reasons for interpreting the data.

The reasons for analyzing the data set are the same as discussed earlier in this paper. We will quickly restate this for the reader. The overall goal is to decide whether hints or worked examples are a better way of teaching a student the concepts on which the ASSISTments content is created. Further information consists of producing output which can later be used to check the assumptions on the overall difficulty of the original questions and their morphs. Lastly we wish to analyze the results both on a per question basis as well as overall: hints vs. worked examples.

The input to the program is a subset of the information found in the ASSISTment database which consists of a unique student ID number, a student IRT number, a teacher name, a problem set, and a series of questions and responses. This program was designed when the input data was constrained to a unique student ID number, and a series of questions and responses.

An initial problem is caused since there is not a bijection between the number of questions and the number of responses. A student may view an ASSISTment question without responding. There is also the potential for a question to be asked multiple times for the same student. This can happen due to the student not finishing the problem set during one class time and then signing in again at another time, or the student accidentally closing the problem set during one session. At the starting time of the problems sets being deployed, some students received multiple questions during the same session. As a result,

the parser from the exported excel sheet (from the database) into our database created within the program must account for these possibilities. There is also another challenge to the inputted data, which involves the preliminary question found in all of the problem sets.

At the beginning of every problem set within our study, a statement explaining the following set of questions is given. The student is then asked to click a multiple choice box if they understand the statement. The statement explains the following problem set and the possibility of the student getting either hints or worked examples, as well as the notion of the pretest and posttest. This ASSISTments number is 25636 and is not part of our test. It simply serves to give the student information. As a result we do not wish to include this as one of the students questions. The problem arises since not all students completed this initial question. As a result, we have to introduce a notion of selective parsing on the input data, which we will discuss later.

The problem sets are designed as to randomize the pretest and then deliver the posttest in a predefined order. If there are n questions, there are n! ways to assign the pretest and only 1 way to assign the posttest. As a result, the data is delivered in any of these orderings, yet must be analyzed as the ith pretest question to the ith posttest question. These input specifications put restrictions on the format of storing data, as well as the parsing of the data.

The first steps were to define our problem, and then to choose a suitable language. I decided to use Java since although it is neither a database oriented or text oriented language, it is versatile, easy to program, and easily adaptable to fit later requirements. Being an object-oriented language, I created an entry which represents a single student. It holds fields for the student ID number, the investigation number, the type of question, as well as which of the four possible paths the student took during the test. This in effect makes each student self contained in the sense raw input data translates into a structured object.

The student record is not entirely self contained in meeting the output requirements as it does not know which questions are part of the pretest and which questions are the corresponding questions of the posttest. As a result, I created another aspect of the program which manipulates the individual student records and is capable of finding the necessary pairs of questions from within the student record. To implement this, I needed another "database" which stores the questions in the problem sets, knows which investigation and which path the questions belong to, as well as the corresponding pairs of questions from the pretest and posttest. Once these design decisions were decided upon, the actual implementation began.

The first step to being able to manipulate the data is parsing the data from the excel sheet to the internal "database" created within the program. This was done by first exporting the excel sheet to a text file to simplify the input reading. The student data needed error checking and selective adding to correspond with the formatting and inconsistency discussed above. A list of question numbers to ignore is defined, and the parse does not add these records to the database. This allowed for the preliminary question to be ignored if present, and to not cause a problem if the student did not respond to the question. If a question was given multiple times to a student, the student's data is ignored and the record is not added. This eliminates bias introduced if a student was given the pretest multiple times, which allows for practice and a greater chance at selecting the correct answer. If a student did not respond to the last question, a possibility if they ran out of time, the record is still added although the unanswered question is ignored.

The ASSISTment problem set "database" data is required to be in a specified format, which allowed for a simpler parsing mechanism. An arbitrary number of problems sets are allowed to be stored within the program, which allows for less user interaction. The input data is formatted with a list of all the A hint questions, followed by an equal number of B hint, A worked, and B worked questions which together form a problem set. Once this data is inputted, it is possible to fill in the remaining fields

for an individual record, mainly the investigation number and path the student took, which is not explicitly given in the student input data. For the details of this aspect, see the documentation for the program.

We then proceed to fill the requirements for the output. We analyze each problem set question and the number of occurrences of all possible responses to the pretest question and the posttest question. These are, for the notation (pretest response, posttest response) where 1 signifies the question was answered correctly and 0 signifies the question was answered incorrectly, the four terms; (0,0), (0,1), (1,0) and (0,1). For easier user analyzing, we also include the total number of responses for the specific question, which is simply the sum of the number of occurrences of each of the before mentioned response pairs. This output format allows individual questions to be analyzed which can be used to compare the relative difficulty of the original questions to their morphs. With the questions being analyzed in this fashion, it allows for the total number of responses of each type for hints to be compared with the number of responses of each type for worked examples, simply add the fields for each question within a problem set.

We are also able to compare the relative difficulty of the original questions and their morphs. This is accomplished on a per question basis by adding the number of correct responses on the original question and comparing this value, relative to the total number of responses on that question to the number of correct responses relative to the total number of responses to the morph of that question. The same principle applies to taking linear combinations of these values to extract the overall relative difficulty of the original version of questions within a given problem set to the corresponding morphs of those questions.

The last output of the program is a well defined output of the student record. This is well defined since any input data on which a student was given a question multiple times, potentially at two different sessions, has the results of each of those sessions removed. The output consists of the student

ID number, the set of question number and response, the investigation number and the type of path taken. The output is sorted by investigation number and then within each investigation number by the type of path taken. If the user wishes, this input can correctly be parsed by the same program, and is idempotent in the sense that once the investigation numbers and path taken are assigned to the records parsed from this output file, the output of this second parsing is identical to the first.

In conclusion, the program first reads in the necessary data and then manipulates the data. When asked it outputs both a well defined version of the input, as well as a per question and type of path taken analysis showing the number of occurrences of each of the four possible outcomes for the question. As stated before, they are { (0,0), (0,1), (1,0), (1,1) }. This can be used to build more general results as well as allow for a more detailed analysis of the data.

Below is the generated JavaDoc for this program.

Package <Unnamed>

Class Summary	
AssistParser	This class takes in two text files and parses them creating an Assistment database and a student results database
DataSet	A DataSet is a collection of UserRecord which correspond to an individual student results
Investigation	An investigation is comprised of questions of 4 types (A hints, B hints, A worked, B worked) It knows what questions are in each type, as well as the number questions in each type
InvManager	InvManager is basically a database that knows the assistment questions for each investigation It contains 4 investigations It is capable of adding a new entry, finding what investigation a question is in As well as what path a question is in (first appearance of that question)
Main	
UserRecord	This class handles an individual student record A student has questions and responses, a student identification number A student participated in questions from one investigation number, and took one of the four paths of learning

Class AssistParser

```
java.lang.Object
  └AssistParser
```

```
public class AssistParser
extends java.lang.Object
```

This class takes in two text files and parses them creating an Assistment database and a student results database

Version:
1.0
Author:
Matthew Dailey

Constructor Summary

AssistParser()

Method Summary

InvManager	**parseAssistmentNums**() This will take a text file called "myfile3.txt" which is formatted Format the text document to match this Total_Number_of_Investigations (1-4) (this appears only once) investigation# Ahints_q1 Ahints_q2 ... Bhints_q1 Bhints_q2 ... Aworked_q1 Aworked_q2 ... Bworked_q1 Bworked_q2 ... and repeat last 5 lines for each investigation number There is no error checking in this
void	**parseFromStudents**(DataSet ALOD, int[] avoidNumbers) Method to parse input data into our database.

Methods inherited from class java.lang.Object

equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Detail

AssistParser

```
public AssistParser()
```

Method Detail

parseFromStudents

```
public void parseFromStudents(DataSet ALOD,
                              int[] avoidNumbers)
```

Method to parse input data into our database. This will ignore non integers in the parsing and only add a point once If it finds the same question twice, it simply disregards the second The input is as follows, note idNumOfStudent is needed idNumOfStudent q1 a1 q2 a2 then a new line for each new student

Parameters:

`ALOD` - A dataset where all the UserRecord will be added to
`avoidNumbers` - The algorithm will ignore these numbers and the one immediately following them if possible

---

parseAssistmentNums

```
public InvManager parseAssistmentNums()
```

This will take a text file called "myfile3.txt" which is formatted
Format the text document to match this
Total_Number_of_Investigations (1-4) (this appears only once)
investigation#
Ahints_q1 Ahints_q2 ...
Bhints_q1 Bhints_q2 ...
Aworked_q1 Aworked_q2 ...
Bworked_q1 Bworked_q2 ...
and repeat last 5 lines for each investigation number
There is no error checking in this

Returns:

an InvManager where all of the assistmens were sent

Package Class **Use** **Tree** **Deprecated** **Index** **Help**

PREV CLASS **NEXT CLASS** **FRAMES** **NO FRAMES** **All Classes**

SUMMARY: NESTED | FIELD | CONSTR | METHOD DETAIL: FIELD | CONSTR | METHOD

Class DataSet

```
java.lang.Object
  └DataSet
```

```
public class DataSet
extends java.lang.Object
```

A DataSet is a collection of UserRecord which correspond to an individual student results

Version:
1.0
Author:
Matthew Dailey

Field Summary

InvManager	**theManager** The investigation Manager that manages all the userRecords

Constructor Summary

DataSet() Override default constructor Set all counter to zero

Method Summary

void	**add**(UserRecord newRecord) Add a specified record to this dataBase of UserRecord
boolean	**containsUserIDDelete**(int id) Looks for a record with the specified userID if found then this will delete the record and return true; else if will return false
void	**printDb**()
void	**printOutSummary**() Prints out a summary of the databases to summary.txt.
void	**printOutToFile**()

	This outputs the database to a file called out.txt The format is currently idNum q1 a1 q2 a2 ...
void	**setInvManager**(InvManager newManager) This will set the specified investigation manager so we can later run multiple databases at once
void	**setInvNum**() This will set the Investigation number and the typeOfQuest for each record in the database if they are not already set
int	**sizeOfDatabase**() Find the size of the database
void	**sortAllData**() This will sort all entries in the database First sorts by investigation number Then sorts within each investigation number by typeOfQuest
void	**sortByInvNumber**() This will sort the database by investigation number Utilizes the fact there are a small # of investigation numbers And so does a sort of bucket sort
void	**sortByPath**(int invNum) This sorts the database by typeOfQuest within investigation number The database MUST already BE SORTED by Investigation number This also uses a bucket sort algorithm

Methods inherited from class java.lang.Object
equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Field Detail

theManager

```
public InvManager theManager
```

The investigation Manager that manages all the userRecords

Constructor Detail

DataSet

```
public DataSet()
```

Override default constructor Set all counter to zero

Method Detail

setInvManager

```
public void setInvManager(InvManager newManager)
```

This will set the specified investigation manager so we can later run multiple databases at once

Parameters:
`newManager` -

---

add

```
public void add(UserRecord newRecord)
```

Add a specified record to this dataBase of UserRecord

Parameters:
`newRecord` - A UserRecord that will be added

---

setInvNum

```
public void setInvNum()
```

This will set the Investigation number and the typeOfQuest for each record in the database if they are not already set

---

containsUserIDDelete

```
public boolean containsUserIDDelete(int id)
```

Looks for a record with the specified userID if found then this will delete the record and return true; else if will return false

Parameters:
`id` - The record idNumber we will search for
Returns:
boolean

---

sizeOfDatabase

```
public int sizeOfDatabase()
```

Find the size of the database

Returns:

The number of UserRecords in the database

---

sortAllData

```
public void sortAllData()
```

This will sort all entries in the database First sorts by investigation number Then sorts within each investigation number by typeOfQuest

---

printOutSummary

```
public void printOutSummary()
```

Prints out a summary of the databases to summary.txt. This is going to be a long method It is going to have to print out a summary of the data Including for each investigation number, for each path followed and for each question in that list

---

printDb

```
public void printDb()
```

---

sortByInvNumber

```
public void sortByInvNumber()
```

This will sort the database by investigation number Utilizes the fact there are a small # of investigation numbers And so does a sort of bucket sort

---

sortByPath

```
public void sortByPath(int invNum)
```

This sorts the database by typeOfQuest within investigation number The database MUST already BE SORTED by Investigation number This also uses a bucket sort algorithm

---

printOutToFile

```
public void printOutToFile()
```

This outputs the database to a file called out.txt The format is currently idNum q1 a1 q2 a2 ... investigationNum typeOfQuest

---

Package Class **Use** **Tree** **Deprecated** **Index** **Help**

PREV CLASS NEXT CLASS FRAMES NO FRAMES All Classes

SUMMARY: NESTED | FIELD | CONSTR | METHOD DETAIL: FIELD | CONSTR | METHOD

Class Investigation

```
java.lang.Object
  └ Investigation
```

```
public class Investigation
extends java.lang.Object
```

An investigation is comprised of questions of 4 types (A hints, B hints, A worked, B worked) It knows what questions are in each type, as well as the number questions in each type

Version:
1.0
Author:
Matthew Dailey

Field Summary

static int	**AHINTNUM** Used as a reference by other classes to know a field is a marker for A hints
static int	**AWORKEDNUM** Used as a reference by other classes to know a field is a marker for A worked examples
static int	**BHINTNUM** Used as a reference by other classes to know a field is a marker for B hints
static int	**BWORKEDNUM** Used as a reference by other classes to know a field is a marker for B worked examples
static int	**MAXPROBLEMSININVESTIGATION** There are a maximum of MAXPROBLEMSINVESTIGATION questions per investigation

Constructor Summary

Investigation() Constructor that stores zero by Java default for all the question numbers Every question list is actually empty

Method Summary

boolean	**addNewAssist**(int question, int whichPath) A general add method where they typeOfQuest is specified returns True if the question was successfully added
int	**getNumProblems**() Get the number of problems that this investigation currently contains
java.awt.Point	**getPairMatching**(int pathTaken, int pairNumber) There are currently 4 types of paths taken This takes in the path taken and pairNumber and returns a pair of questions numbers for the question and its corresponding morph returns Point (question, corresponding_question) if found else returns null if there is no question for that pairNumber or pathTaken is OOB
int	**getTypeOfQuestion**(int questionNum) Returns in which typeOfQuest the specified question is located in returns int corresponding to typeOfQuest or -1 if not found
void	**printOut**(int typeOfQuest) Prints out the questions in a specific typeOfQuest A typeOfQuest is i.e.
void	**setHints**() Set the number of questions that each specific type of path will store this is if the parser explicitly knows how many questions of each type for a given investigation there will be
void	**setNumProblems**(int numProblems) Set the number of problems that this investigation contains

Methods inherited from class java.lang.Object
equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Field Detail

MAXPROBLEMSININVESTIGATION

```
public static final int MAXPROBLEMSININVESTIGATION
```

There are a maximum of MAXPROBLEMSINVESTIGATION questions per investigation

See Also:

Constant Field Values

AHINTNUM

```
public static final int AHINTNUM
```

Used as a reference by other classes to know a field is a marker for A hints

See Also:
Constant Field Values

BHINTNUM

```
public static final int BHINTNUM
```

Used as a reference by other classes to know a field is a marker for B hints

See Also:
Constant Field Values

AWORKEDNUM

```
public static final int AWORKEDNUM
```

Used as a reference by other classes to know a field is a marker for A worked examples

See Also:
Constant Field Values

BWORKEDNUM

```
public static final int BWORKEDNUM
```

Used as a reference by other classes to know a field is a marker for B worked examples

See Also:
Constant Field Values

Constructor Detail

Investigation

```
public Investigation()
```

Constructor that stores zero by Java default for all the question numbers Every question list is actually empty

Method Detail

setNumProblems

```
public void setNumProblems(int numProblems)
```

Set the number of problems that this investigation contains

Parameters:

`numProblems` -

---

getNumProblems

```
public int getNumProblems()
```

Get the number of problems that this investigation currently contains

Returns:

int

---

setHints

```
public void setHints()
```

Set the number of questions that each specific type of path will store this is if the parser explicitly knows how many questions of each type for a given investigation there will be

---

printOut

```
public void printOut(int typeOfQuest)
```

Prints out the questions in a specific typeOfQuest A typeOfQuest is i.e. AHINTNUM

Parameters:

`typeOfQuest` - Corresponds to the question list that will be printed out

---

getPairMatching

```
public java.awt.Point getPairMatching(int pathTaken,
                                      int pairNumber)
```

There are currently 4 types of paths taken This takes in the path taken and pairNumber and returns a pair of questions numbers for the question and its corresponding morph returns Point (question, corresponding_question) if found else returns null if there is no question for that pairNumber or

pathTaken is OOB

Parameters:

`pathTaken` - typeOfQuest where we are looking for first question to be
`pairNumber` - The index[pairNumber] of the pair we are searching for

Returns:

Point

---

addNewAssist

```
public boolean addNewAssist(int question,
                            int whichPath)
```

A general add method where they typeOfQuest is specified returns True if the question was successfully added

Parameters:

`question` - The question that is to be added to this database
`whichPath` - The typeOfQuest to associate question with

Returns:

boolean

---

getTypeOfQuestion

```
public int getTypeOfQuestion(int questionNum)
```

Returns in which typeOfQuest the specified question is located in returns int corresponding to typeOfQuest or -1 if not found

Parameters:

`questionNum` - The question number we are searching for

Returns:

int

Class InvManager

```
java.lang.Object
  └ InvManager
```

```
public class InvManager
extends java.lang.Object
```

InvManager is basically a database that knows the assistment questions for each investigation It contains 4 investigations It is capable of adding a new entry, finding what investigation a question is in As well as what path a question is in (first appearance of that question)

Version:
1.0

Author:
Matthew Dailey

Constructor Summary

InvManager()

Method Summary

boolean	**addAssist**(int questionNum, int investNumber, int whichPath) This is to add a specific question number to be associated with a certain investigation number and typeOfQuest returns true if the specified question was added (non repeat)
void	**addInvestigation**(int number) Add an investigation with a specific number but this number is not used in the computation and so we regard against this
Investigation	**getActualInvn**(int investNum)
java.awt.Point	**getAssistMatching**(int investNumber, int pathTaken, int pairNumber) Every Assistment has a matching that we compare the two against each other This is to find that matching question returns Point(question, corresponding_question) if found, else null
int	**getInvestigation**(int questionNum)

	Search through each investigation and return they typeOfQuest it is within whatever one it is found in returns the investigation number in which the question is found else returns -1 if not found in the database
int	**getType**(int questionNum, int investNumber) Returns the type of investigation (A hints, B hints...
int	**numInvestigations**() Return the number of Investigations that are currently stored
void	**setInvestQuestions**(int invNumber, int numQuestions) Set the investigation referenced by invNumber to have the number of questions stored in numQuestions

Methods inherited from class java.lang.Object
equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Detail

InvManager

```
public InvManager()
```

Method Detail

addInvestigation

```
public void addInvestigation(int number)
```

Add an investigation with a specific number but this number is not used in the computation and so we regard against this

---

numInvestigations

```
public int numInvestigations()
```

Return the number of Investigations that are currently stored

---

setInvestQuestions

```
public void setInvestQuestions(int invNumber,
                               int numQuestions)
```

Set the investigation referenced by invNumber to have the number of questions stored in numQuestions

Parameters:

`invNumber` - The investigation of which to set the number of questions
`numQuestions` - number of questions in say A hints

---

getAssistMatching

```
public java.awt.Point getAssistMatching(int investNumber,
                                        int pathTaken,
                                        int pairNumber)
```

Every Assistment has a matching that we compare the two against each other This is to find that matching question returns Point(question, corresponding_question) if found, else null

Parameters:

`investNumber` - There can be many, perhaps later will be of use, saves searching
`pathTaken` - Either A_hints, B_hints, A_worked, B_worked
`pairNumber` - As in the first question, second, third or ...

Returns:

Point

---

getInvestigation

```
public int getInvestigation(int questionNum)
```

Search through each investigation and return they typeOfQuest it is within whatever one it is found in returns the investigation number in which the question is found else returns -1 if not found in the database

Parameters:

`questionNum` - A question (Assistment #) that we are to locate

Returns:

int The investigation number

---

getActualInvn

```
public Investigation getActualInvn(int investNum)
```

---

getType

```
public int getType(int questionNum,
                   int investNumber)
```

Returns the type of investigation (A hints, B hints... for the questionNum which is a member of investigation investNumber returns int typOfQuest if found or -1 if not found

Parameters:

`questionNum` - The question number to search for the type of
`investNumber` - The investigation where it is located

Returns:

int

---

addAssist

```
public boolean addAssist(int questionNum,
                         int investNumber,
                         int whichPath)
```

This is to add a specific question number to be associated with a certain investigation number and typeOfQuest returns true if the specified question was added (non repeat)

Parameters:

`questionNum` - the question we are assigning attributes to
`investNumber` - where this question should be associated to
`whichPath` - the typeOfQuest this question should be associated with

Returns:

boolean

Class UserRecord

```
java.lang.Object
  └UserRecord
```

```
public class UserRecord
extends java.lang.Object
```

This class handles an individual student record A student has questions and responses, a student identification number A student participated in questions from one investigation number, and took one of the four paths of learning

Field Summary

java.awt.Point[]	**allRecords** array of (question, response) per record
int	**idNumber** A unique identifier that each record contains
int	**investNum** what number investigation this student participated in
static int	**MAXPOINTS** maximum amount of (question, response) per record
static InvManager	**myInv** Manages the various problem sets
int	**numRecords** used for array indexing
int	**typeOfQuest** used to know if this student was in A Hints first or B hints or ...

Constructor Summary

UserRecord() Override the default constructor for a UserRecord Store max number of questions possible Use -1 for an ID number since one is not provided
UserRecord(int idNumber) Override the default constructor for a UserRecord Store max number of questions possible Use

idNumber for an ID number since provided
UserRecord(int idNumber, int numRecords) The full constructor, sets all attributes

Method Summary

void	**addEntry**(int question, int correct) If possible, will add an entry to the list of records of form Point (question,correct)
boolean	**assignInvNum**() Assign this record an investigation number according to the database that myInv maintains.
int	**firstQ**() Returns the first questions number this student took that is considered valid Used to know what investigation this student is a part of
java.awt.Point	**getLearn**(int question1, int question2) This takes in two question numbers and returns the responses to them if a point if BOTH were found
java.awt.Point	**getPointByQuestion**(int questionNum) Finds the specified pairing (question, response) for specific question number If the student did not take the question, it returns null
boolean	**isLessThanByInvest**(UserRecord other) Compare to method by Investigation number
boolean	**isLessThanByTypeQ**(UserRecord other) Compare to method by typeOfQuest (path taken)
boolean	**isTypeSet**() This will decide if the record already has a typeOfQuest decided
void	**printAllPoints**() Prints a list of all (question, response) stored to the console
void	**setIdNum**(int idNum) This will set the id number of the record
java.lang.String	**toString**() Prints out everything about this record in a specified manner idNumber qi ai investigationNum typeOfQuest

Methods inherited from class java.lang.Object
equals, getClass, hashCode, notify, notifyAll, wait, wait, wait

Field Detail

MAXPOINTS

```
public static final int MAXPOINTS
```

maximum amount of (question, response) per record

See Also:
Constant Field Values

---

myInv

```
public static InvManager myInv
```

Manages the various problem sets

---

idNumber

```
public int idNumber
```

A unique identifier that each record contains

---

allRecords

```
public java.awt.Point[] allRecords
```

array of (question, response) per record

---

numRecords

```
public int numRecords
```

used for array indexing

---

investNum

```
public int investNum
```

what number investigation this student participated in

---

typeOfQuest

```
public int typeOfQuest
```

used to know if this student was in A Hints first or B hints or ...

Constructor Detail

UserRecord

```
public UserRecord()
```

Override the default constructor for a UserRecord Store max number of questions possible Use -1 for an ID number since one is not provided

---

UserRecord

```
public UserRecord(int idNumber)
```

Override the default constructor for a UserRecord Store max number of questions possible Use idNumber for an ID number since provided

Parameters:

`idNumber` - the IDnumber of the student

UserRecord

```
public UserRecord(int idNumber,
                  int numRecords)
```

The full constructor, sets all attributes

Parameters:

`idNumber` - The specific id number of the record

`numRecords` - The number of (question, response) this record has

Method Detail

setIdNum

```
public void setIdNum(int idNum)
```

This will set the id number of the record

Parameters:

`idNum` - The new id number

---

firstQ

```
public int firstQ()
```

Returns the first questions number this student took that is considered valid Used to know what investigation this student is a part of

Returns:
The first question that this record contains

---

addEntry

```
public void addEntry(int question,
                     int correct)
```

If possible, will add an entry to the list of records of form Point(question,correct)

Parameters:
`question` - A question to add
`correct` - The response to the question

---

assignInvNum

```
public boolean assignInvNum()
```

Assign this record an investigation number according to the database that myInv maintains.

Returns:
true if an investigation number was found

---

getPointByQuestion

```
public java.awt.Point getPointByQuestion(int questionNum)
```

Finds the specified pairing (question, response) for specific question number If the student did not take the question, it returns null

Parameters:
`questionNum` - a question that may be present in this record
Returns:
Point of (question, response) if found

---

getLearn

```
public java.awt.Point getLearn(int question1,
                               int question2)
```

This takes in two question numbers and returns the responses to them if a point if BOTH were found

Parameters:

`question1` - First question

`question2` - The second question

Returns:

Point(response_to_q1, response_to_q2) if q1, q2 found

---

printAllPoints

```
public void printAllPoints()
```

Prints a list of all (question, response) stored to the console

---

isTypeSet

```
public boolean isTypeSet()
```

This will decide if the record already has a typeOfQuest decided

Returns:

True if it is possible for record to have a typeOfQuest and one is set

---

isLessThanByInvest

```
public boolean isLessThanByInvest(UserRecord other)
```

Compare to method by Investigation number

Parameters:

`other` - A second record that can be null

Returns:

true if other is null or this <= other

---

isLessThanByTypeQ

```
public boolean isLessThanByTypeQ(UserRecord other)
```

Compare to method by typeOfQuest (path taken)

Parameters:
`other` - A second record that can be null
Returns:
true if other is null or this <= other

---

toString

```
public java.lang.String toString()
```

Prints out everything about this record in a specified manner idNumber qi ai investigationNum typeOfQuest

Overrides:
`toString` in class `java.lang.Object`
Returns:
String specified in the above fashion

Assistment #12251

Assistment

You are previewing content.
Which of these numbers has the smallest value?
-1/4, 1.5, -0.33, 7/4

Comment on this question

Remember, negative numbers are always smaller than positive numbers,
so we can eliminate the positive numbers,
leaving us to determine which is smaller, -1/4 or -.33

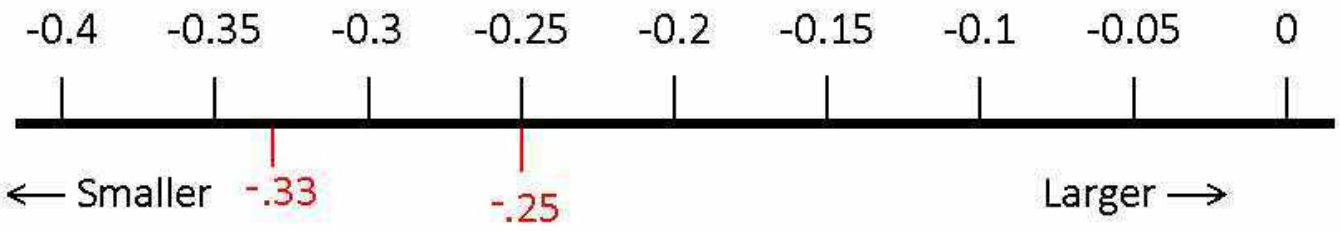
Comment on this hint

It helps to visualize this problem with a number line.
First: Plot both numbers (remember, both are negative).
Then: Determine which is larger (the larger number will be the one closer to zero).

Comment on this hint

1/4 = .25

Comment on this hint



Comment on this hint

-0.33 has the smallest value. Please select C. -0.33

Comment on this hint

Select one:

- A. -1/4
- B. 1.5
- C. -0.33
- D. 7/4

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #12252

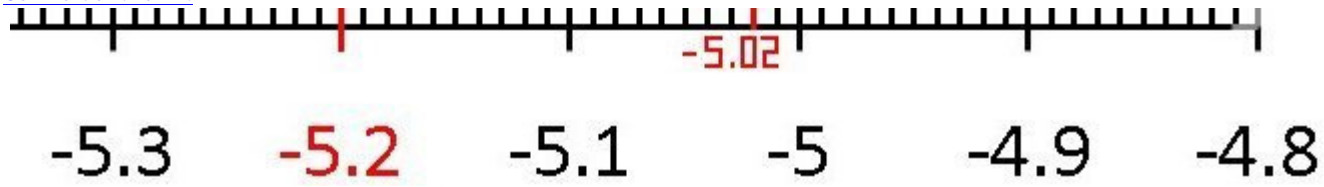
Assistment

You are previewing content.
Which symbol should go in the blank?
-5.2 ___ -5.02

Comment on this question

Let's place these numbers on a number line to compare them and see which is smaller.

Comment on this hint



Here are the two numbers on the number line. -5.02 is very close to -5 since .02 is so small.

Comment on this hint

On a number line, numbers get smaller as you go to the left

Since -5.2 is to the left of -5.02 on the number line, -5.2 must be smaller.

Comment on this hint

So -5.2 < -5.02. Select A.

Comment on this hint

Select one:

- A. <
- B. >
- C. =

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #27324

Assistment

You are previewing content.
Which of these numbers has the largest value?

-1/4, 1.5, -0.33, or 7/4

Comment on this question

All positive numbers are always larger than negative numbers, therefore you can eliminate -1/4 and -0.33

Comment on this hint

To make it easier to compute we should turn 7/4 into a decimal so it can be compared with 1.5 easily.

7/4 = 1 3/4

1 3/4 is equal to 1.75.

Comment on this hint

1.75 is greater than 1.5, therefore the correct answer is D.7/4

Comment on this hint

Select one:

- A. -1/4
- B. 1.5
- C. -0.33
- D. 7/4

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #12275

Assistment

You are previewing content.
Which symbol should go in the blank?
24.5 ___ -25

Comment on this question

Which is smaller: a negative number or a positive number?

Comment on this hint

A negative number is smaller than a positive number

Comment on this hint

Since negative number is smaller than a positive number, 24.5 is greater than -25. The symbol for greater than is >

Comment on this hint

Select one:

- A. <
- B. >
- C. =

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #12276

Assistment

You are previewing content.
Which symbol should go in the blank?
-52 ___ 7

Comment on this question

Which is smaller: a negative number or a positive number?

Comment on this hint

A negative number is smaller

Comment on this hint

The symbol for greater than is >
The symbol for less than is <

Comment on this hint

so:
-52 is less than 7
-52 < 7
please choose A. <

Comment on this hint

Select one:

- A. <
- B. >
- C. =

Submit Answer

Assistment #12277

Assistment

You are previewing content.
Which symbol should go in the blank?
-52.5 ___ -52.50

Comment on this question

Breaking this down into tenths and hundredths is a good way to visualize this

Comment on this hint

Comment on this hint

Since 0 hundreths does not make -52.50 larger or smaller than -52.5 the two numbers must be equal. Select C.
=

Comment on this hint

Select one:

- A. <
- B. >
- C. =

Submit Answer
Correct!
You are done with this problem!

Comment on this problem

Assistment #12301

Assistment

You are previewing content.
Find the Product.
-2 * 15

Comment on this question

When you multiply two integers, remember to

First: Multiply the numbers while ignoring the signs

Then: Determine what the sign should be

Comment on this hint

even number of negatives	$-1 * -1 = +1$
odd number of negatives	$-1 * +1 = -1$
odd number of negatives	$+1 * -1 = -1$
no negatives	$+1 * +1 = +1$

Comment on this hint
For the problem -2*15
First calculate 2*15= 30
Then consider the signs -*+ = -
When you put them together, you get -30
Comment on this hint
Type your answer below (mathematical expression):

- -30

Submit Answer
Correct!
You are done with this problem!
Comment on this problem

Assistment #27325

Assistment

You are previewing content.
Find the product:
$^{1}/_{2}$ * -10 = ?

Comment on this question

even number of negatives	$-1 * -1 = +1$
odd number of negatives	$-1 * +1 = -1$
odd number of negatives	$+1 * -1 = -1$
no negatives	$+1 * +1 = +1$

Comment on this hint
When you multiply two integers, remember to
First: Multiply the numbers while ignoring the signs
Then: Determine what the sign should be

Comment on this hint
Applying this process to 1/2 * -10 = ?
First, since 10/1 = 10, multiply 1/2 *10/1
to get 10/2
Then, determine the proper sign.
Since there is one negative (-10) and one positive (1/2), the sign is negative,
making the answer -10/2
or simplified, -5

Comment on this hint
Type your answer below (mathematical expression):

- -5

Submit Answer
Correct!
You are done with this problem!

Comment on this problem

Assistment #12303

Assistment

You are previewing content.
What is the value of p that makes the statement true?
15 / p = -3

Comment on this question

even number of negatives	$\frac{-1}{-1} = +1$
odd number of negatives	$\frac{-1}{+1} = -1$
odd number of negatives	$\frac{+1}{-1} = -1$
no negatives	$\frac{+1}{+1} = +1$

We can use these rules to determine the sign of P.

Comment on this hint
P must be negative for the answer to be negative
Comment on this hint

Ignoring the signs, we need to figure out 15 divided by what equals 3

15/? =3

Comment on this hint

We know that 15/5=3, so with a -3, we get

15/-5=-3

Therefore, p=-5

Comment on this hint
Type your answer below (mathematical expression):

- -5

Submit Answer
Correct!
You are done with this problem!

Comment on this problem

Assistment #27326

Assistment

You are previewing content.
What is the value of p that makes the statement true?
-20 / p = -4

Comment on this question

even number of negatives	$\frac{-1}{-1} = +1$
odd number of negatives	$\frac{-1}{+1} = -1$
odd number of negatives	$\frac{+1}{-1} = -1$
no negatives	$\frac{+1}{+1} = +1$

You can use these rules to determine what sign P has to be.

Comment on this hint
For the answer to be negative, P must be positive, just like the 2nd example above.
Comment on this hint

Ignoring the signs, we need to find 20 divided by what equals 4.

20/?=4

Comment on this hint

We know that 20/5=4

Therefore -20/5=-4

Since P has to be positive for the signs to work out,

p=5

Comment on this hint
Type your answer below (mathematical expression):

- 5

Submit Answer
Correct!
You are done with this problem!

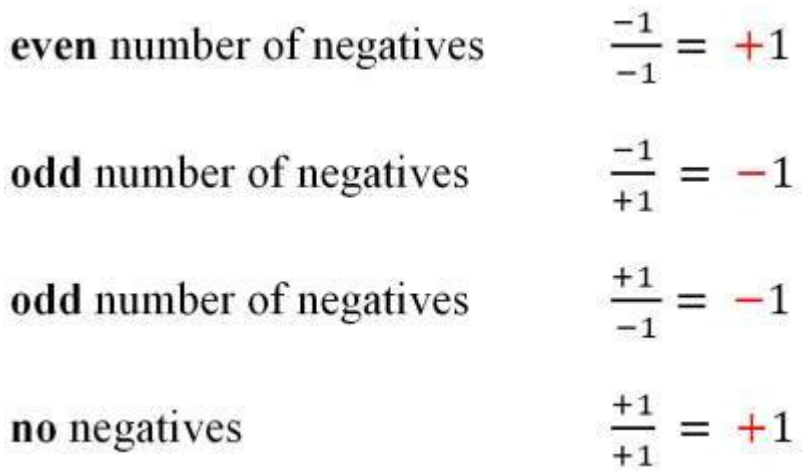
Comment on this problem

Assistment #12310

Assistment

You are previewing content.
What is the value of p that makes the statement true?
p / -2 = 5

Comment on this question



We can use these rules to determine what sign P has to be.

Comment on this hint

P has to be negative, just like in the first example in the image above.

Comment on this hint

We have to figure out what divided by 5 equals 2

?/5=2

Comment on this hint

We know 10/5=2,

Therefore we have -10/5=-2 So, p=-10

Type in -10

Comment on this hint

Type your answer below (mathematical expression):

- -10

Submit Answer
Correct!
You are done with this problem!

Comment on this problem

Assistment #12311

Assistment

You are previewing content.
In this problem you don't have to give the answer.
Just tell whether the answer is positive or negative.

(-4/3) * (5/3) * (-1.56)

Comment on this question

Since we only want the sign, you only have to determine the sign of a **negative** times a **positive** times a **negative**.

Comment on this hint

Lets work from left to right.
The **positive** number times the **negative** will give a negative number following the rules of multiplication of integers
(negative * positive) * negative =
negative * negative

Comment on this hint

Now we must determine the sign from multiplying a negative times a negative

Comment on this hint

Comment on this hint

The answer is positive, select 'A. Positive +'

Comment on this hint

Select one:

- A. Positive +
- B. Negative -

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #27327

Assistment

You are previewing content.
In this problem you don't have to give the answer.
Just tell whether the answer is positive or negative.

(-3.7) * (4.6)

Comment on this question

This problem breaks down to a negative times a positive

Comment on this hint

even number of negatives	$-1 * -1 = +1$
odd number of negatives	$-1 * +1 = -1$
odd number of negatives	$+1 * -1 = -1$
no negatives	$+1 * +1 = +1$

Comment on this hint

The correct answer is Negative -

Comment on this hint

Select one:

- A. Positive +
- B. Negative -

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #24727

Assistment

You are previewing content.

	Student	Score	Grade		Student	Score	Grade
A.	MARY	21	9	Q.	JOHN	78	10
B.	LEON	42	9	R.	ROBERT	65	10
C.	LINDA	27	9	S.	MARIA	49	10
D.	DEREK	35	9	T.	STACEY	60	10
E.	ELIZABETH	43	9	U.	WILMA	45	10
F.	TONYA	78	9	V.	JENNIFER	60	10
G.	ELLA	23	9	W.	DARRELL	44	10
H.	SUSAN	35	9	X.	MICHAEL	78	10
I.	MARGARE	36	9	Y.	WILLIAM	52	10
J.	RICHARD	24	9	Z.	DAVID	69	10
K.	CHARLES	40	9	AA.	GINA	9	10
L.	JOSEPH	36	9	AB.	KRISTIN	79	10
M.	THOMAS	40	9	AC.	DOROTHY	54	10
N.	PATRICIA	41	9	AD.	JESSIE	52	10
O.	WARREN	41	9	AE.	NATALIE	69	10
P.	JAMES	35	9	AF.	BARBARA	53	10
				AG.	JEROME	53	10
				AH.	AGNES	37	10
				AI.	VERA	53	10

Mrs. Jesup wants to make a histogram of all the scores. She begins her intervals at 0 and each interval has a width of 10. Which interval would have no data in it?

Comment on this question

Make a histogram of the data, with an interval size of 10 (since the answers are given in intervals of 10)

Comment on this hint

Here is the blank histogram. Sketching this and filling in the data points would make this problem easier to visualize.

Comment on this hint

Here is the histogram with the data. Which interval does not have any data points in it?

Comment on this hint

The interval 10-20 does not contain any data points

Comment on this hint

Select one:

- 0-10
- 10-20
- 20-30
- 30-40
- 40-50
- 50-60
- 60-70
- 70-80

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

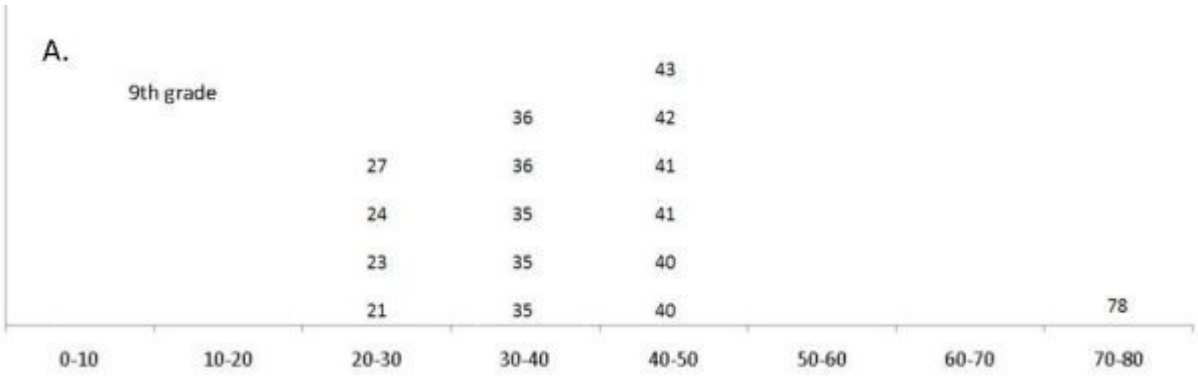
Assistment #24728

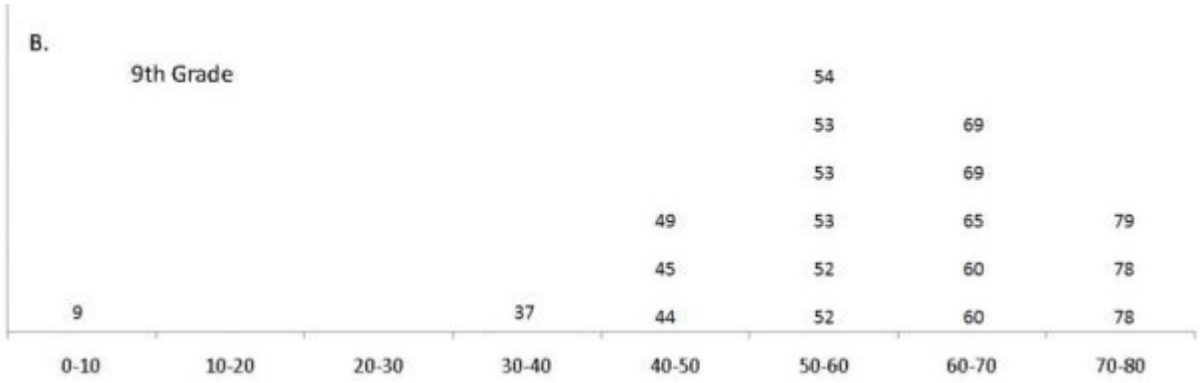
Assistment

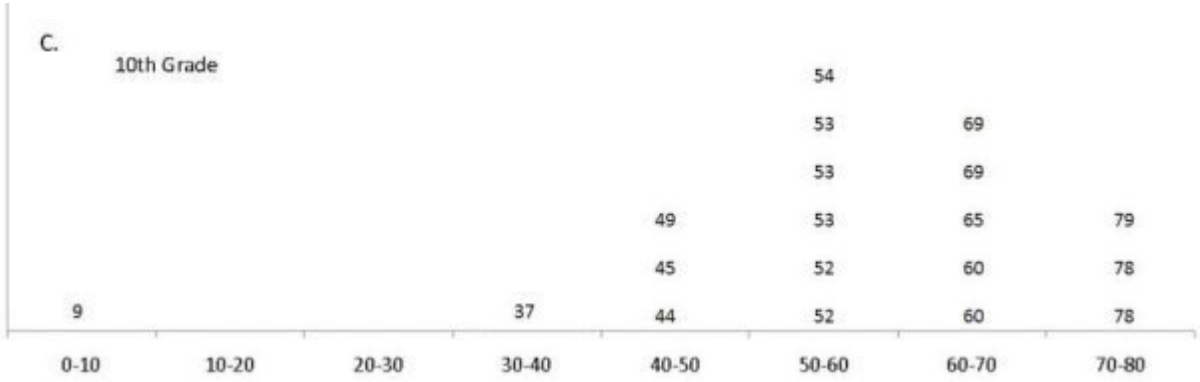
You are previewing content.

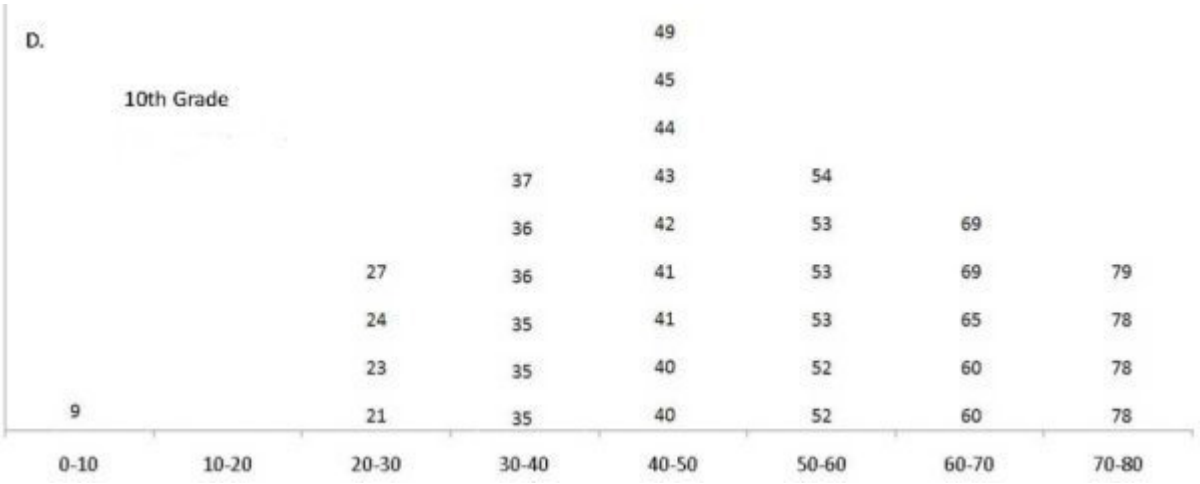
Student	Score	Grade
JOHN	78	10
ROBERT	65	10
MARIA	49	10
STACEY	60	10
WILMA	45	10
JENNIFER	60	10
DARRELL	44	10
MICHAEL	78	10
WILLIAM	52	10
DAVID	69	10
GINA	9	10
KRISTIN	79	10
DOROTHY	54	10
JESSIE	52	10
NATALIE	69	10
BARBARA	53	10
JEROME	53	10
AGNES	37	10
VERA	53	10

Which histogram is a correct representation of the given table?









Comment on this question

Find values in the 10th grade data that are unique, especially looking at the highest and lowest values

Comment on this hint

You can eliminate graph A since it does not contain the number 9, which is the lowest value in the data set.

Lets count the number of data values and eliminate any graphs with too many or too few values.

Comment on this hint

The table contains 19 data values, but graph D has more than 19, so we can eliminate it. This leaves us with graphs B and C.

Now check the labels on the graph to make sure they are properly labeled.

Comment on this hint

Since the data is for 10th grade, you can eliminate graph B since it is labeled 9th grade.

This leaves us with graph C, which is the correct answer.

Comment on this hint

Select one:

- A.
- B.
- C.
- D.

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #24729

Assistment

You are previewing content.

What score is an outlier for the the 10th grade data?

Student	Score	Grade
JOHN	78	10
ROBERT	65	10
MARIA	49	10
STACEY	60	10
WILMA	45	10
JENNIFER	60	10
DARRELL	44	10
MICHAEL	78	10
WILLIAM	52	10
DAVID	69	10
GINA	9	10
KRISTIN	79	10
DOROTHY	54	10
JESSIE	52	10
NATALIE	69	10
BARBARA	53	10
JEROME	53	10
AGNES	37	10
VERA	53	10

Comment on this question

Listing the scores in order makes it easier to determine the outlier (the data value that is seperated from the other data values).

Comment on this hint

Here are the scores listed in order

Find the outlier

Comment on this hint

9 is the outlier since it is significantly seperated from the other data.

Comment on this hint

Type your answer below:

- 9

Submit Answer

Correct!
You are done with this problem!

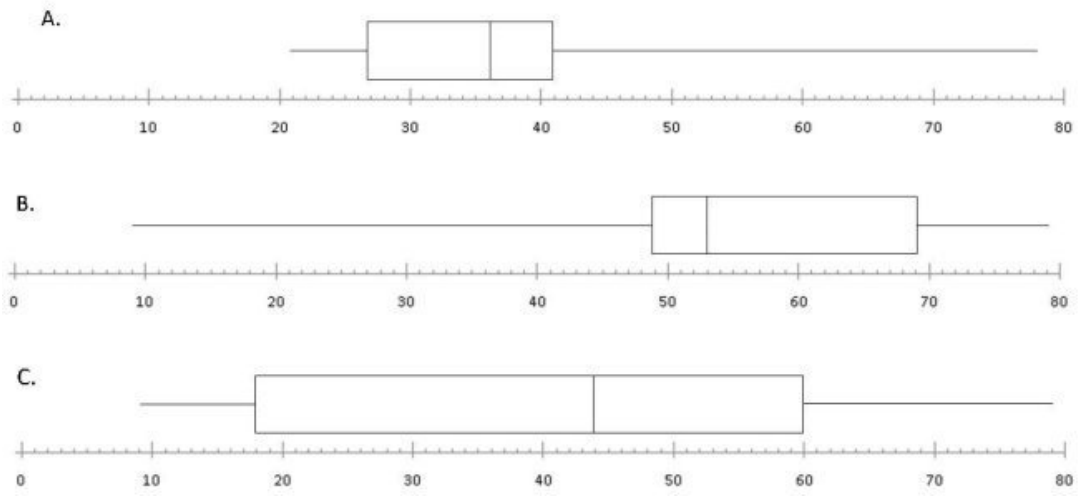
Comment on this problem

Assistment #24731

Assistment

You are previewing content.

Which Box and Whisker plot shows only the 10th grade data?



Comment on this question

First find the graph options with the same end points as the 10th grade data (9 and 79)

Comment on this hint

Graph A can be elimitated since it's end points don't correspond to the 10th grade data.

Since the three box and whisker plots have different medians all we need to do is find the median from the data and determine which graph has that score as the median.

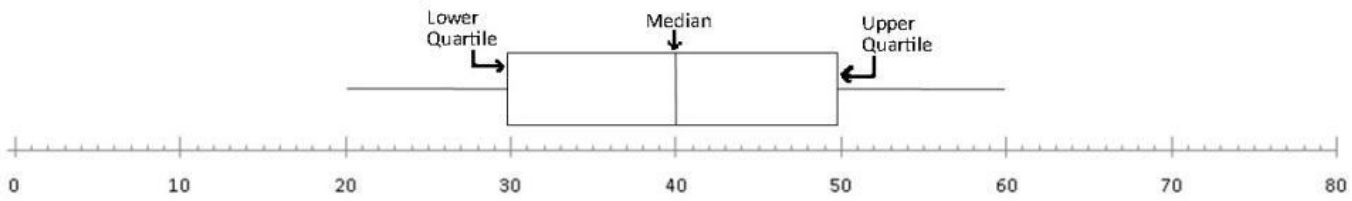
Comment on this hint

The median of the data is the middlemost data value. For this data set, sort the numbers in order and select the middle number, in this case, the 10th one, since there are 19 numbers.

9
37
44
45
49
52
52
53
53
53
54
60
60
65
69
69
78
78
79

The median value is 53.

Comment on this hint



The Median line in this example corresponds to 40.

We need to find the graph with a median line corresponding to 53.

Comment on this hint

The median line in graph C corresponds to 44, while the median line in graph B corresponds to 53.

Therefore, graph B is the correct graph. Please select B

Comment on this hint

Select one:

- A.
- B.
- C.

Submit Answer

Correct!

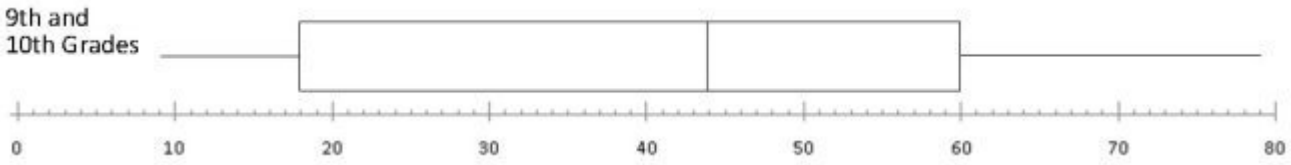
You are done with this problem!

Comment on this problem

Assistment #24732

Assistment

You are previewing content.



Here is the box and whisker plot for all the students. What is the range of the data?

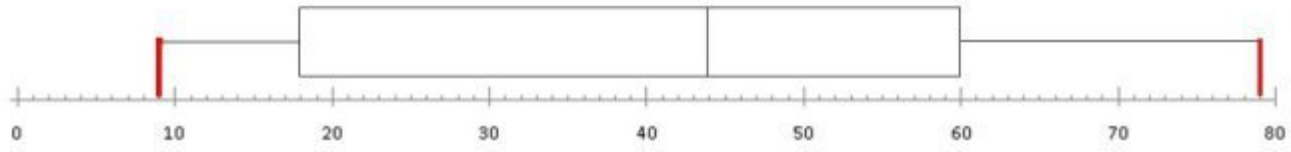
Comment on this question

The range of the data is the lowest data point subtracted from the highest data point. (highest value - lowest value)

Comment on this hint

The ends of the whiskers are the low and high points of the data.

Comment on this hint



The high point and the low point are marked in red, with the low point corresponding to 9 and the high point to 79

Comment on this hint

The high point (79) minus the low point (9) is the range of the data.

79-9 = 70

The range of the data is 70
Please enter 70

Comment on this hint

Type your answer below:

- 70

Submit Answer

Correct!

You are done with this problem!

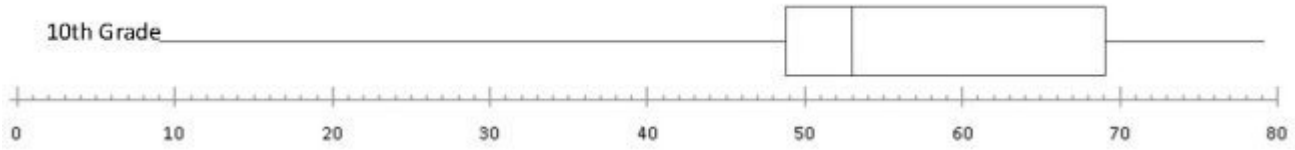
Comment on this problem

Assistment #24733

Assistment

You are previewing content.

Here is the box and whisker plot for the 10th grade students, what is the median of the data?



Comment on this question

The median is the middle data value

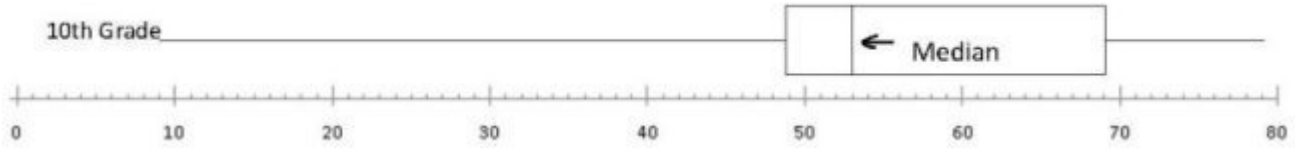
Comment on this hint

A box and whisker plot is set up like this

With ¼ of the data between the left endpoint and the lower quartile,
¼ of the data between the lower quartile and the median,
¼ of the data between the median and the upper quartile and
¼ of the data between the upper quartile and the right endpoint

Comment on this hint

The box and whisker plot below is the same one as the question except it has the median line marked. This median line corresponds to the median of the data. What value is the median line representing?



Comment on this hint

The median line corresponds to 53, so 53 is the median point.

Please enter 53

Comment on this hint

Type your answer below:

- 53

Submit Answer

Correct!

You are done with this problem!

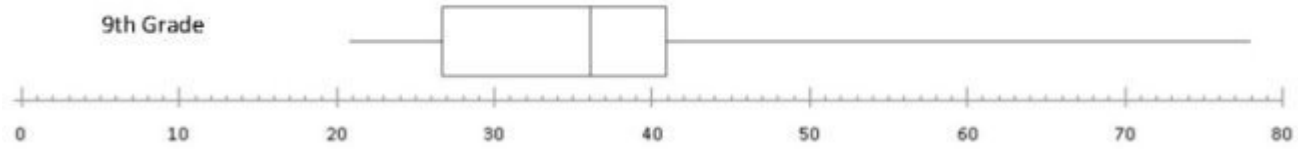
Comment on this problem

Assistment

Assistment #24734

You are previewing content.

Here is the box and whisker plot of the 9th grade students. What would be the lower quartile?



Comment on this question

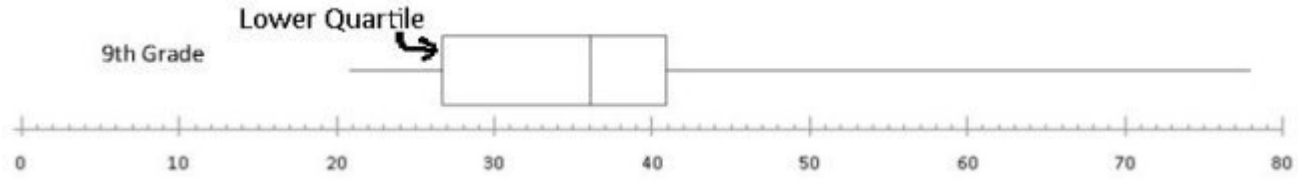
A box and whisker plot is set up like this

Comment on this hint

The data value that corresponds to the lower quartile line is the lower quartile value, which is what this problem is asking for.

Comment on this hint

The box and whisker graph below is the same as the one in the question. To what value does the lower quartile line correspond?



Comment on this hint

The lower quartile line corresponds to 27 in this question, so the lower quartile is 27

Please enter 27

Comment on this hint

Type your answer below:

- 27

Submit Answer

Correct!

You are done with this problem!

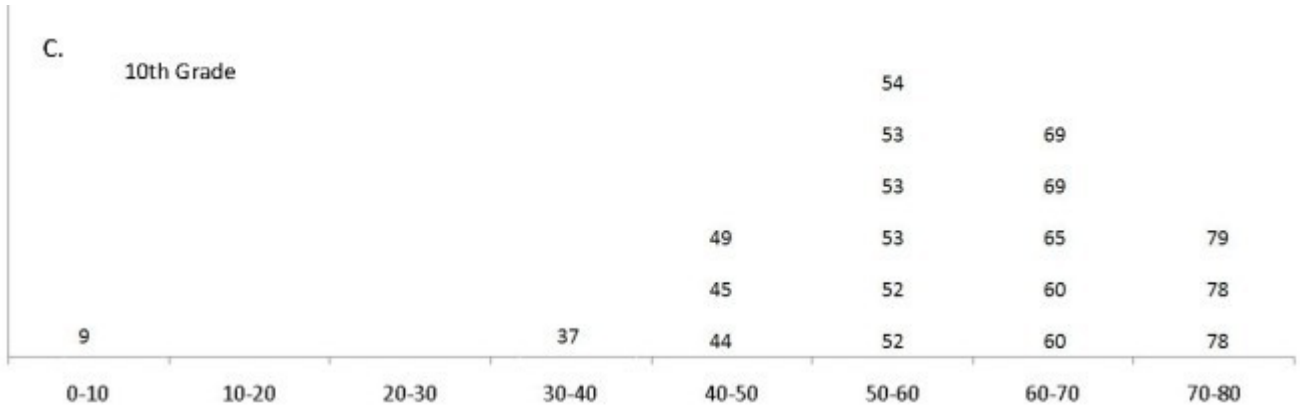
Comment on this problem

Assistment #24735

Assistment

You are previewing content.

Here is the data from the 10th grade students presented as a histogram. In which interval(s) do the scores cluster?



Comment on this question

Look at the intervals given as potential answers and see which has most of the data without containing intervals with very little data.

Comment on this hint

The data is clustered in this circle

What interval represents this circle?

Comment on this hint

The data is clustered between 40 and 80, so 40-80 is the correct answer.

Please choose 40-80

Comment on this hint

Select one:

- 40-50
- 0-80
- 40-80
- 60-80

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25348

Assistment

You are previewing content.
Meghan was given a list of all possible dimensions for a rectangular prism made out of 42 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

Comment on this question

Request Help

Select one:

- A. 1 x 1 x 42
- B. 7 x 3 x 6
- C. 2 x 1 x 21
- D. 7 x 3 x 2
- E. 14 x 3 x 1
- F. 1 x 7 x 6

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Sally was given a list of all possible dimensions for a rectuangular prism made out of 12 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

A. 1 x 6 x 2

B. 3 x 2 x 2

C. 12 x 1 x 1

D. 2 x 3 x 4

E. 6 x 2 x 1

F. 1 x 4 x 3

Solution:

The rectangular prism is made out of 12 wooden cubes and so its volume must be 12. The volume of a prism is the product of its length, width and height.

Choice	Dimensions	Volume
A.	1 x 6 x 2	1*6*2 = 12
B.	3 x 2 x 2	3*2*2 = 12
C.	12 x 1 x 1	12*1*1 = 12
D.	2 x 3 x 4	2*3*4 = 24
E.	6 x 2 x 1	6*2*1 = 12
F.	1 x 4 x 3	1*4*3 = 12

Since choice **D requires** 24 wooden cubes, and Sally only has 12 wooden cubes. Sally can not make a box of dimension 2 x 3 x 4.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Meghan was given a list of all possible dimensions for a rectangular prism made out of 42 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

Please select

B. 7 x 3 x 6

Comment on this hint

Select one:

- A. 1 x 1 x 42
- B. 7 x 3 x 6
- C. 2 x 1 x 21
- D. 7 x 3 x 2
- E. 14 x 3 x 1
- F. 1 x 7 x 6

Submit Answer

Correct!

You are done with this problem!

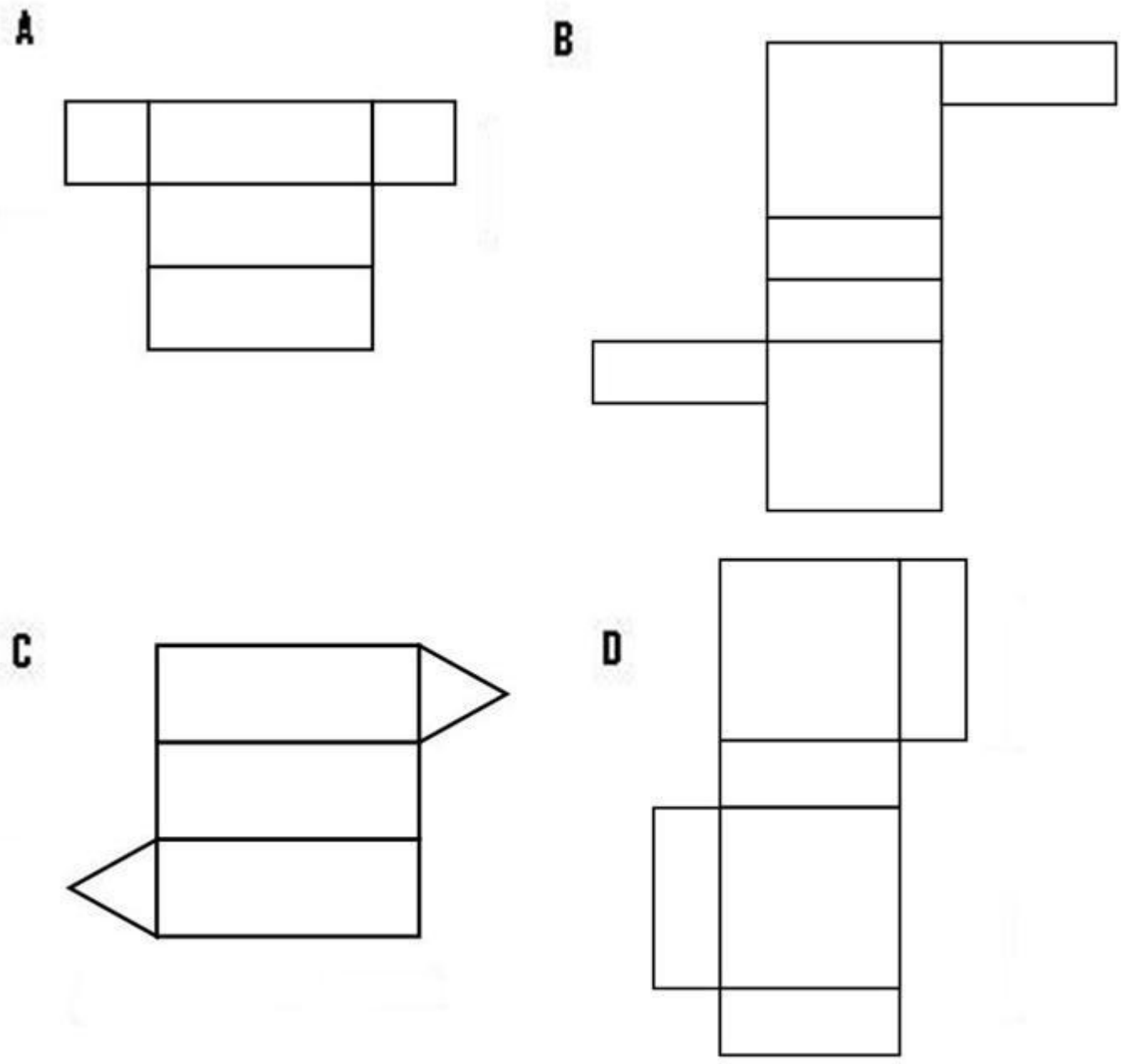
Comment on this problem

Assistment #25423

Assistment

You are previewing content.

Which one of these nets can be folded to form a closed rectangular box?



Comment on this question

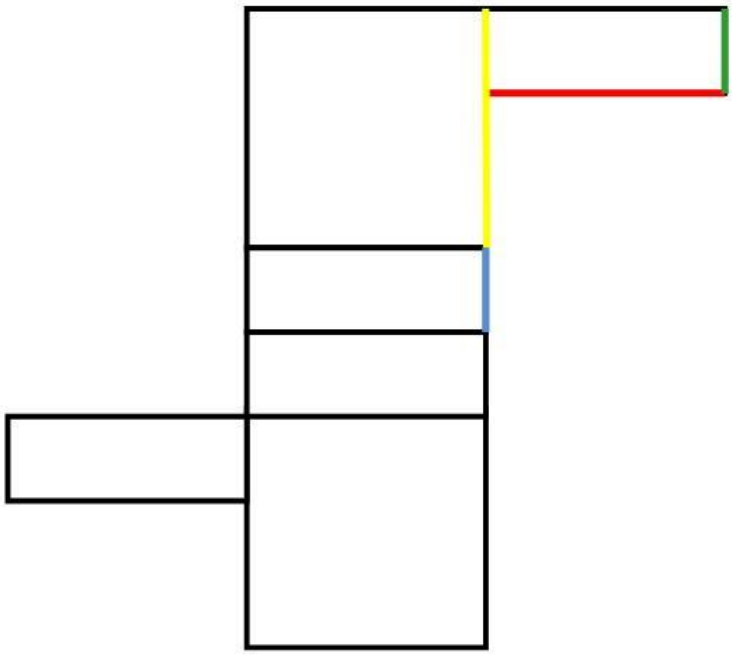
Try to mentally fold the nets one at a time and see if the sides match up.

Comment on this hint

As you can see in figure A, there are only five faces, where a rectangle needs six.

Comment on this hint

In figure B, the red side and yellow side would match, but it is not possible to fold the net to allow these edges to line up. The same is true for the green and blue sides.



Comment on this hint

In figure C, When folded properly, the net creates a triangular prism. We are looking for a rectangular prism

Comment on this hint

In choice D all the sides do match up and will fold to form a closed rectangular box. Choose choice D.

Comment on this hint

Select one:

- A.
- B.
- C.
- D.

Submit Answer

Correct!

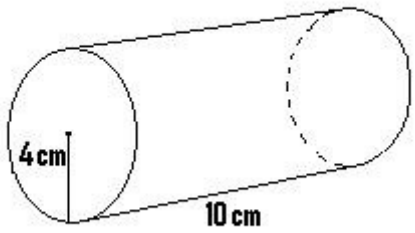
You are done with this problem!

Comment on this problem

Assistment #21800

Assistment

You are previewing content.
How many cubic cm is the volume of the given cylinder? Use 3.14 for pi.



Comment on this question

Remember that the volume of a cylinder = the area of the circle * height
or
$\pi * r^2 * h$

Comment on this hint

Volume = $\pi * 4^2 * 10 =$

Comment on this hint

$\pi * 16 * 10 =$
502.4

Comment on this hint

The volume is 502.4, please enter 502.4.

Comment on this hint

Type your answer below (mathematical expression):

- 502.4

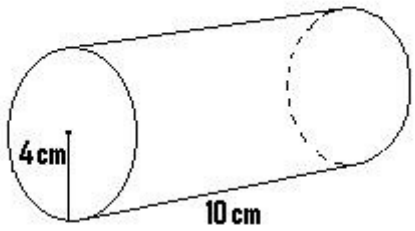
Submit Answer
Correct!
You are done with this problem!

Comment on this problem

Assistment #21801

Assistment

You are previewing content.
How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number.

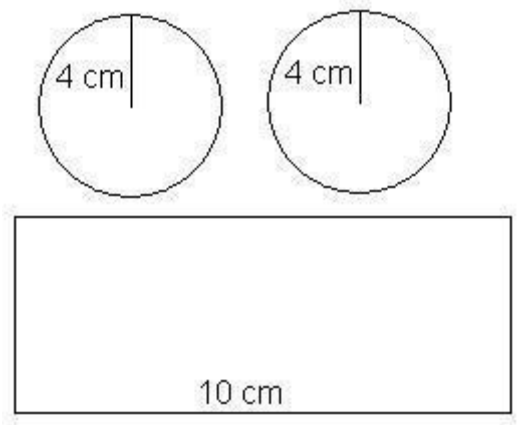


Comment on this question

Since the lateral surface area is the area of all the pieces that make up the cylinder it helps to make a drawing of the parts of the cylinder. Make this drawing on your paper, label it then try to find the total surface area.

Comment on this hint

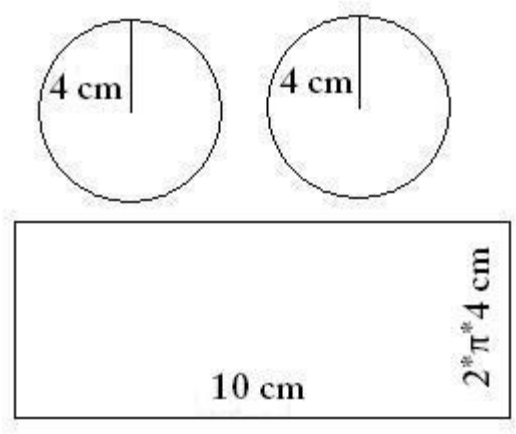
Each end of the cylinder is a circle of radius 4cm.
The rectangle has length 10cm and its height is equal to the circumference of one of the circles.



Comment on this hint

Remember that surface area = the area of the circle on the top + the area of the circle on the bottom + the area of the rectangle that makes up the cylinder. So start by finding the area of the two circles (they are identical).

Remember, the formula for area of a circle is $\pi * r^2$.



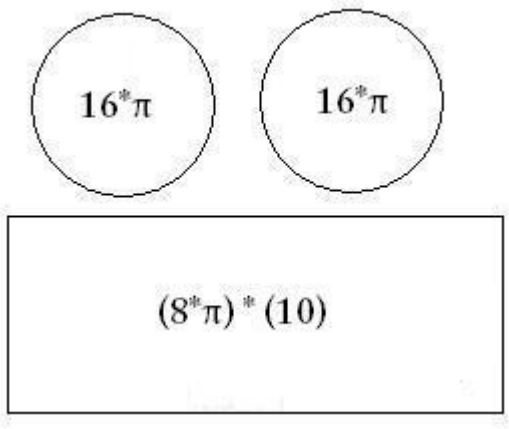
Comment on this hint

The total surface area of the two circles is:

$2 * (\pi * 4^2) = 32 * \pi$.
Now we need to add in the area of the rectangle. You can see from the original picture that the length of its side is the circumference of the circle, which is $2*\pi*4$cm.

To find the rectangle's area we need to multiply its height, $2*\pi*4$cm by its length, 10 cm.

Comment on this hint



The rectangle's surface area is $2*\pi*4*10$, or $80*\pi$.
We can add this to the circles' area, $32*\pi$, to find that the total surface area is
$80*\pi + 32*\pi = 112*\pi$.

If we use $\pi = 3.14$, the total surface area is:

$112 * 3.14 = 351.68$

If we round to the nearest whole number, the total surface area is 352.

If we use a calculator π button, the total surface area is:

$112 * \pi = 351.85$, which also rounds to 352.

Comment on this hint

Type your answer below (mathematical expression):

- 352

Submit Answer

Correct!

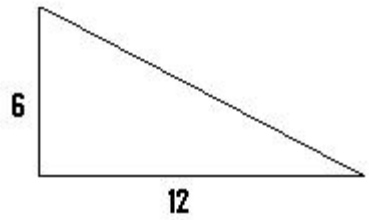
You are done with this problem!

Comment on this problem

Assistment #27328

Assistment

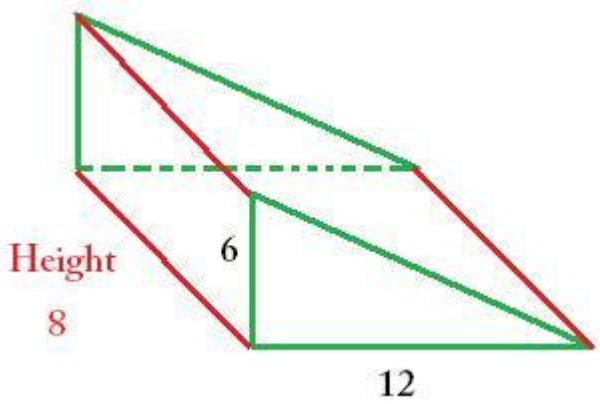
You are previewing content.
How many cubic feet is the volume of the triangular prism that has a height of 8 feet and the base that is shown in the picture.



Comment on this question

Start by drawing a sketch of the triangular prism and labeling it with the dimentions given.

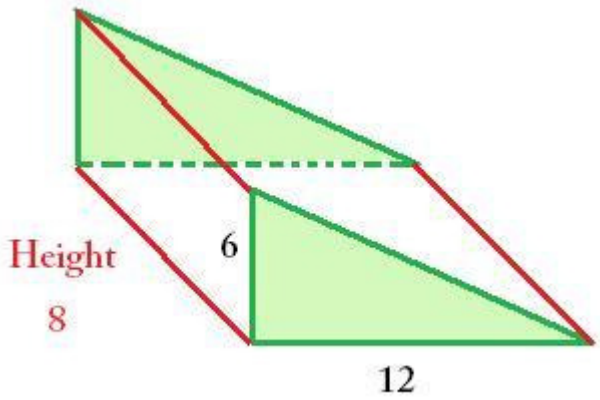
Comment on this hint



Comment on this hint

Remember that the volume of a prism = area of the BASE * height.

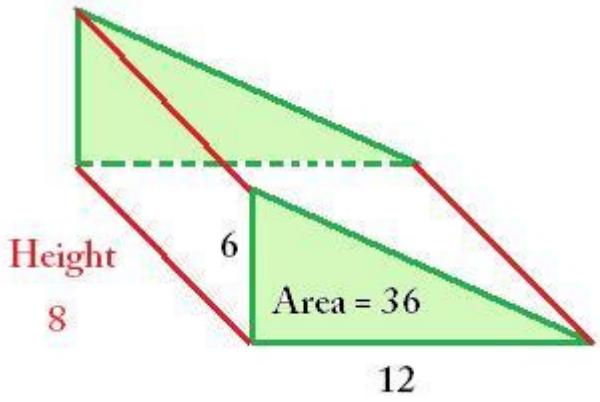
Comment on this hint



The area of the BASE is a triangle. The area of a triangle = ½ the base * the height.

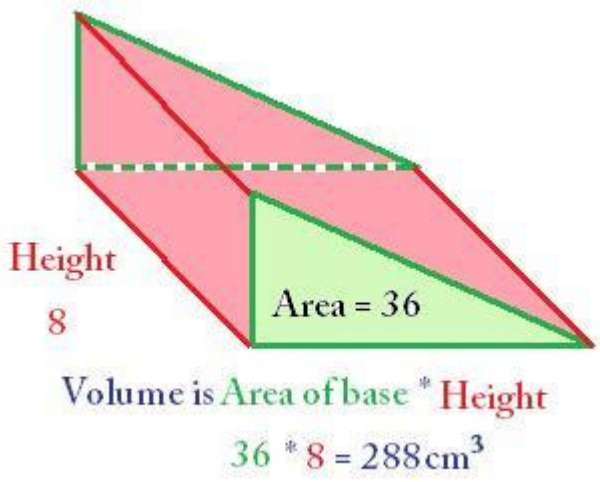
Comment on this hint

Solve for the area of the triangle.
Area = 1/2 * base of triangle * height of triangle
A = 1/2 * (6) * (12)
A = (3) * 12
A = 36



Comment on this hint

Now solve for the volume.
Remember that the area of the triangle is 36 and the height of the prism is 8.
The Volume = Area of the BASE * height of the prism
V = 36 * 8
V=288



The volume of the prism is 288 cm3. Please enter 288.

Comment on this hint

Type your answer below:

- 288

Submit Answer

Correct!

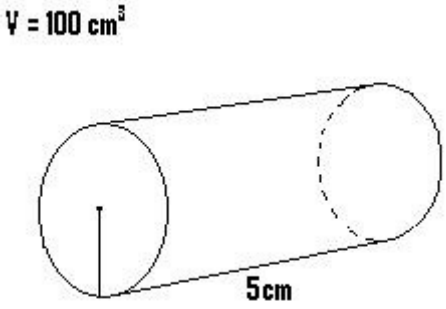
You are done with this problem!

Comment on this problem

Assistment #21803

Assistment

You are previewing content.
Maria wants to design a can that holds 100 cubic cm of soup. If the can is 5 cm tall, what is the area of the lid of the can?



Comment on this question

Remember that the volume of a cylinder = area of the base * h

Comment on this hint

The volume is 100 and the can is 5 tall, so solve for the area of the lid

Comment on this hint

volume = area of base * h
100 = A * 5
100/5 = A
20 = A

Comment on this hint

The area of the base is 20 cm^2. Please enter 20.

Comment on this hint

Type your answer below:

- 20

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #25415

Assistment

You are previewing content.
A closed cube has side length of 3 inches. How many square inches is the total surface area of the cube? (It may help to draw a sketch of the cube)

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

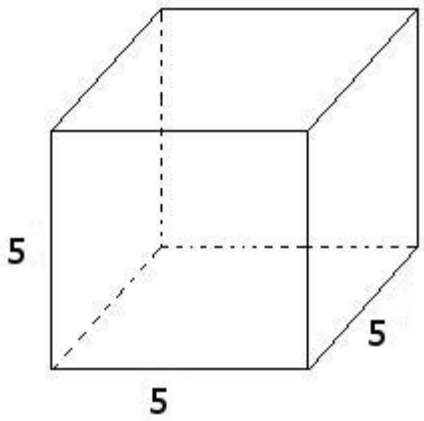
Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

A closed cube has side length of 5 inches. How many square inches is the total surface area of the cube? (It may help to draw a sketch of the cube)

Solution:

First lets look at the cube.



A cube has six faces.

The total area of these faces is the surface area.

Lets find the **area of each face**:

Since each side is 5 inches long, the area of a face is 5 * 5 = **25 square inches**

Now we find the **total surface area**:

Total Surface Area = 25 square inches per face * 6 faces
= 25 * 6
= 150 square inches

The total surface area is 150

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

A closed cube has side length of 3 inches. How many square inches is the total surface area of the cube? (It may help to draw a sketch of the cube)

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is 54 square inches

Please enter 54

Comment on this hint

Type your answer below:

- 54

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25416

Assistment

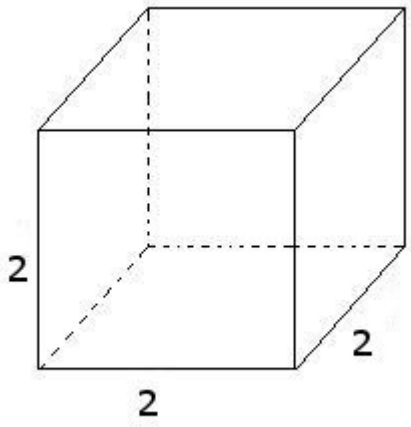
You are previewing content.

A closed cube has side length of 2 inches. How many square inches is the total surface area of the cube? (It may help to draw a sketch of the cube)

Comment on this question

Draw and label a picture to help you get started

Comment on this hint



Comment on this hint

Remember in a cube, all the faces have equal area

Comment on this hint

Surface area = the area of each of the 6 faces added together

Comment on this hint

Area of a face = area of a rectangle = 2 * 2 = 4

Comment on this hint

4 + 4 + 4 + 4 + 4 + 4 is the total surface area of the cube

this is the same as 4 * 6

which equals 24

Comment on this hint

The total surface area is 24 square inches. Type in 24.

Comment on this hint

Type your answer below:

- 24

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25417

Assistment

You are previewing content.

A retangular box has dimensions 2 feet x 4 feet x 6 feet. It has 6 faces. Two have area 8ft^2; two have area 24ft^2. What is the area of one of the two remaining faces of the box? (It may help to draw a sketch)

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

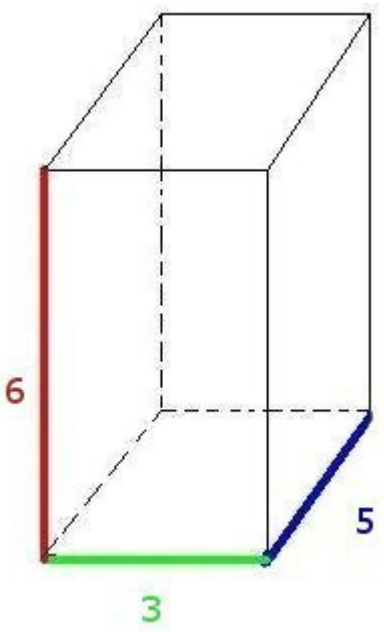
Problem:

A retangular box has dimensions 6 feet x 5 feet x 3 feet. It has 6 faces. Two have area 18ft^2; two have area 30ft^2. What is the area of one of the two remaining faces of the box? (It may help to draw a sketch)

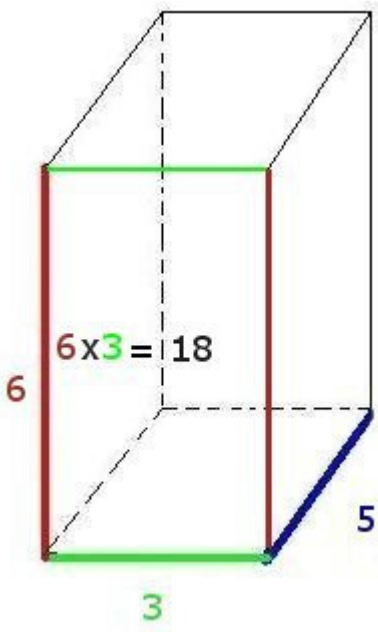
Solution:

Lets visualize this problem.

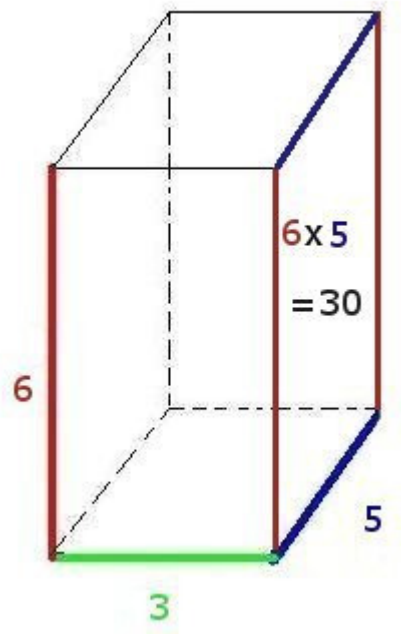
The box would specified looks like:



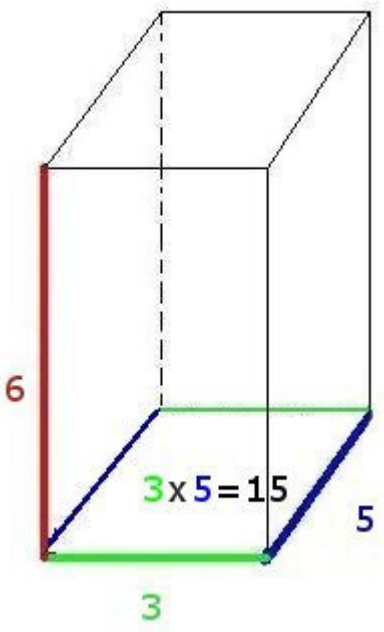
The front and back faces are 6x3 rectangles, with an area of 18 ft^2 each



The side faces are 5x6 rectangles, with an area of 30 ft^2 each



This leaves us with the top and bottom faces, which are 5x3 rectangles, with an area of 15 ft^2 each.



Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

A retangular box has dimensions 2 feet x 4 feet x 6 feet. It has 6 faces. Two have area $8ft^2$; two have area $24ft^2$. What is the area of one of the two remaining faces of the box? (It may help to draw a sketch)

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is 12 ft^2

Please enter 12

Comment on this hint

Type your answer below:

- 12

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25418

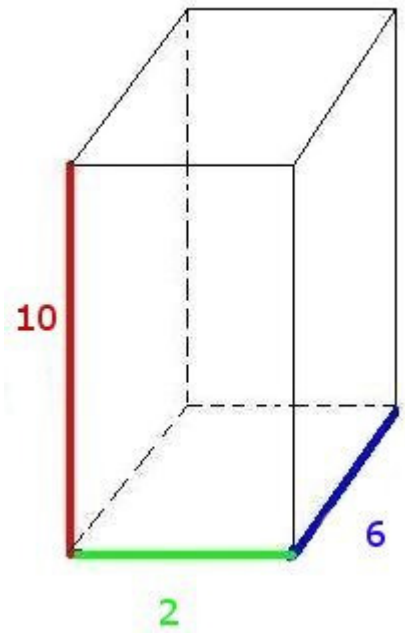
Assistment

You are previewing content.

A retangular box has dimensions 2 feet x 6 feet x 10 feet. It has 6 faces. Two have area $12ft^2$; two have area $60ft^2$. What is the area of one of the two remaining faces of the box? (It may help to draw a sketch)

Comment on this question

Draw picture and label the sides.

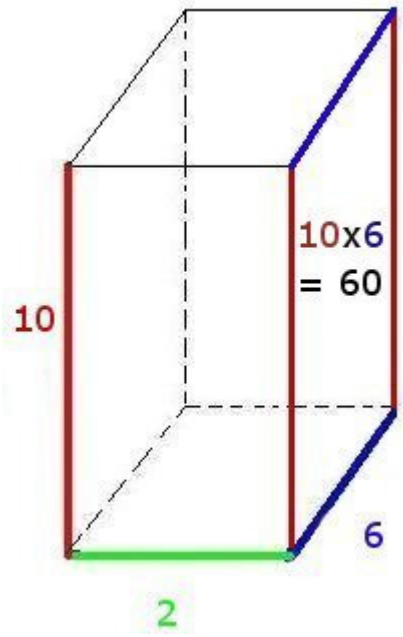


Comment on this hint

Remember area of a rectangle = L x W or Length x Width

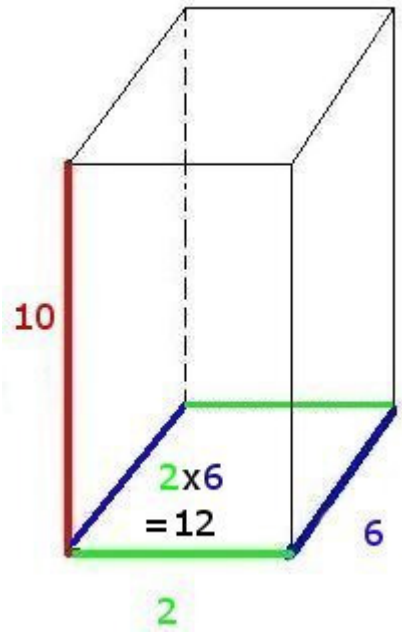
Comment on this hint

The red and blue colored rectangle has an area of 10ft*6ft or $60ft^2$.



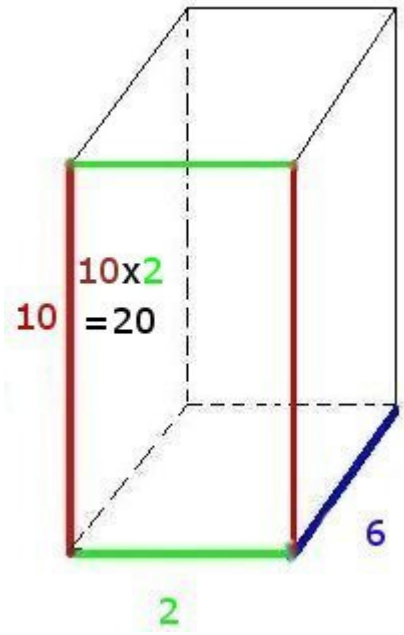
Comment on this hint

The green and blue rectangle has an area of or 6ft * 2ft or $12ft^2$.



Comment on this hint

How many square feet is the area of one of the remaining two faces of the box(the red and green face)?



10x 2 = 20 ft^2

Please enter 20

Comment on this hint

Type your answer below:

- 20

Submit Answer

Correct!

You are done with this problem!

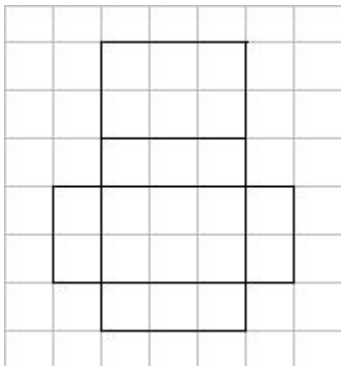
Comment on this problem

Assistment #25420

Assistment

You are previewing content.

What are the dimensions of the box made out of this net?



Comment on this question

Request Help

Select one:

- A. 1x6x3
- B. 3x1x6
- C. 2x1x3
- D. 6x3x6x3

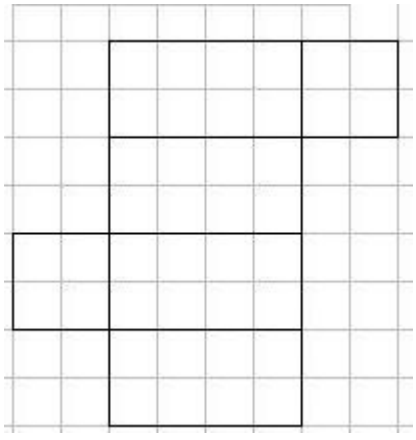
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

What are the dimensions of the box made out of this net?



Solution:

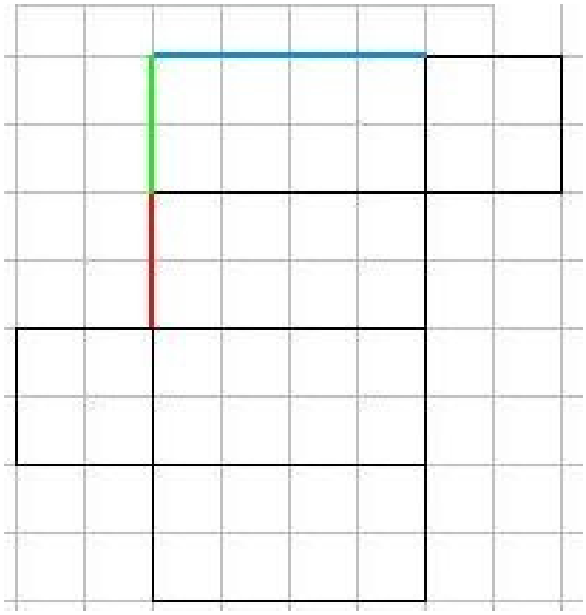
We are looking for the dimensions of the figure formed by the net.

Looking at the net, we have 6 sides in an arrangement that would form a rectangular prism.

A rectangular prism has three dimensions, length, width, and height

To determine these dimensions, we need to find the lengths of the edges that make up these components.

Looking at the figure below, three edges that don't overlap when folded are marked in red, green, and blue.



Red is two units long, green is two units long, and blue is four units long.

These are the dimensions of the rectangular prism, and can be placed in any order, since any of the dimensions could be height, depending on how the rectangular prism is placed.

Therefore, the dimensions can be:

2x2x4

4x2x2

2x4x2

Comment on this question

Select one:

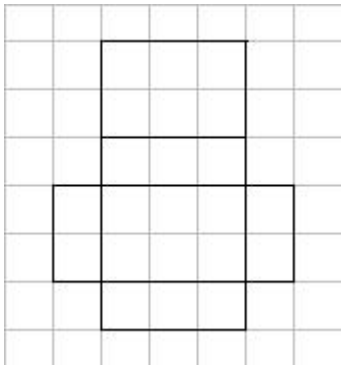
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

What are the dimensions of the box made out of this net?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is:

C. 2x1x3

Comment on this hint

Select one:

- A. 1x6x3
- B. 3x1x6
- C. 2x1x3
- D. 6x3x6x3

Submit Answer

Correct!

You are done with this problem!

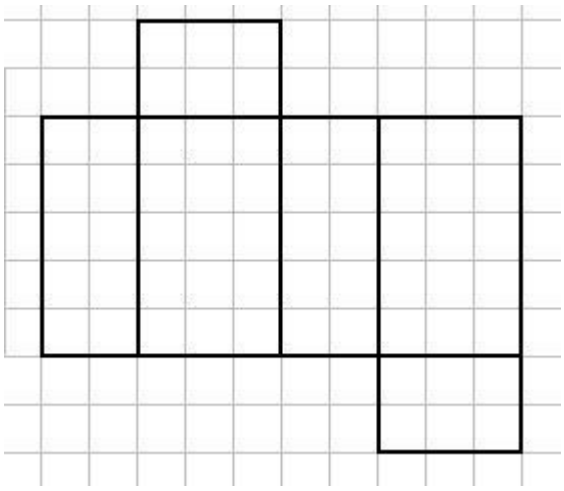
Comment on this problem

Assistment #25421

Assistment

You are previewing content.

What are the dimensions of the box made out of this net?



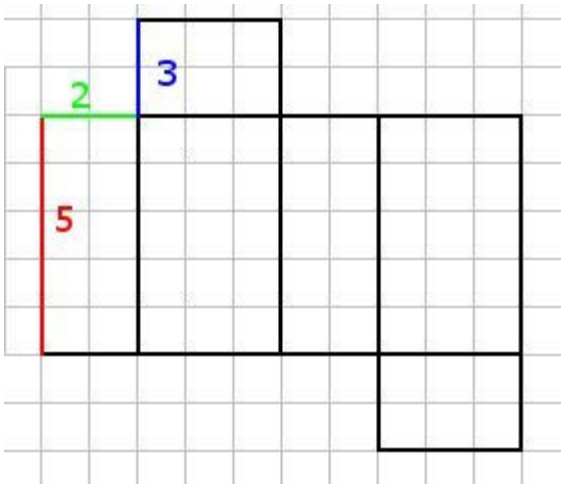
Comment on this question

Imagine folding this net to form a box.

Comment on this hint

The three different lengths in the net are the dimensions.

Comment on this hint



The dimensions are 2 x 3 x5

Keep in mind it does not matter what order the dimension are listed in. It could be 2x5x3, 5x3x2, 5x2x3, 2x3x5, 3x5x2. or 3x2x5

The correct choice is C. Select choice C

Comment on this hint

Select one:

- A. 30
- B. 3x3x2
- C. 2x3x5
- D. 2x3x2x3

Submit Answer

Correct!

You are done with this problem!

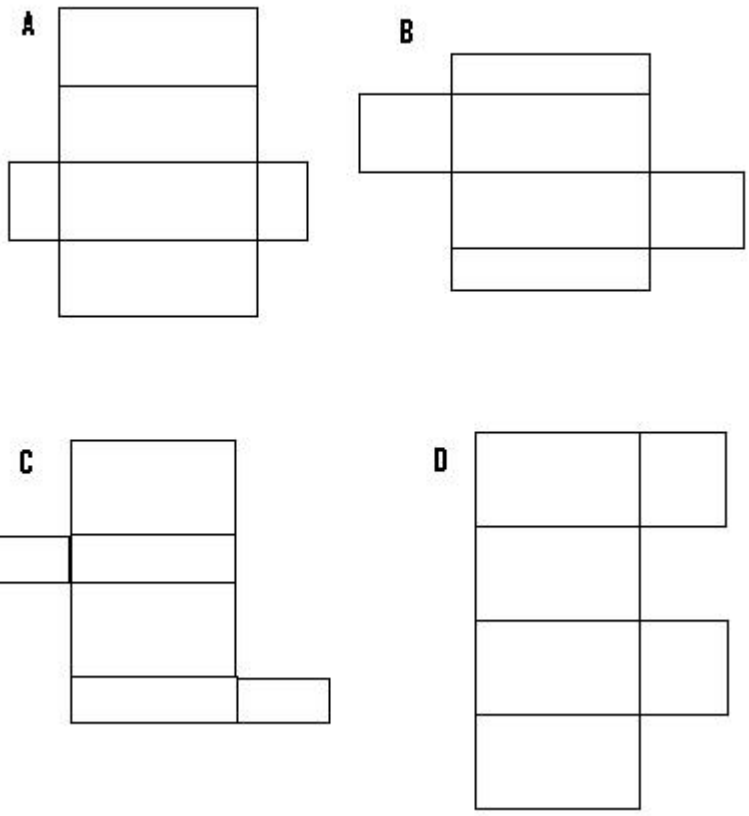
Comment on this problem

Assistment #25422

Assistment

You are previewing content.

Which one of these nets can be folded to form a closed rectangular box?



Comment on this question

Request Help

Select one:

- A.
- B.
- C.
- D.

Submit Answer

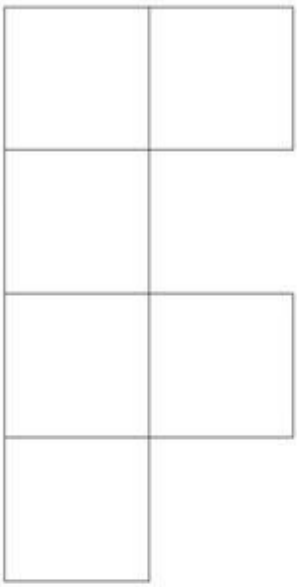
Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

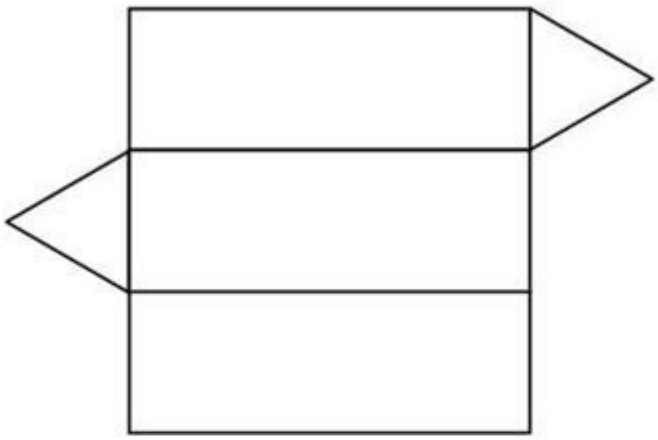
Problem:

Which one of these nets can be folded to form a closed rectangular box?

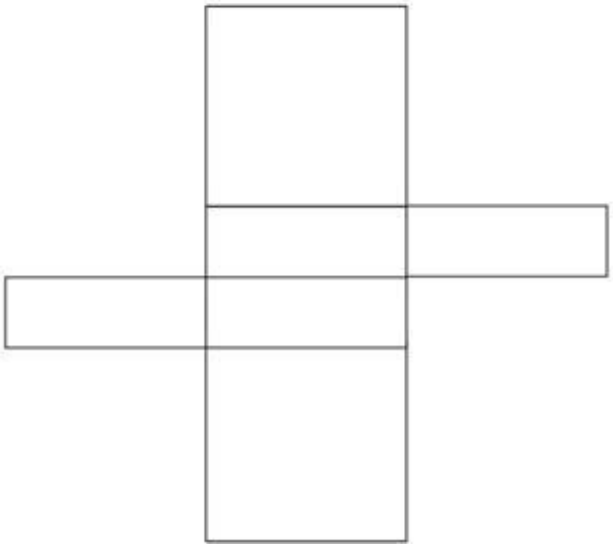
A



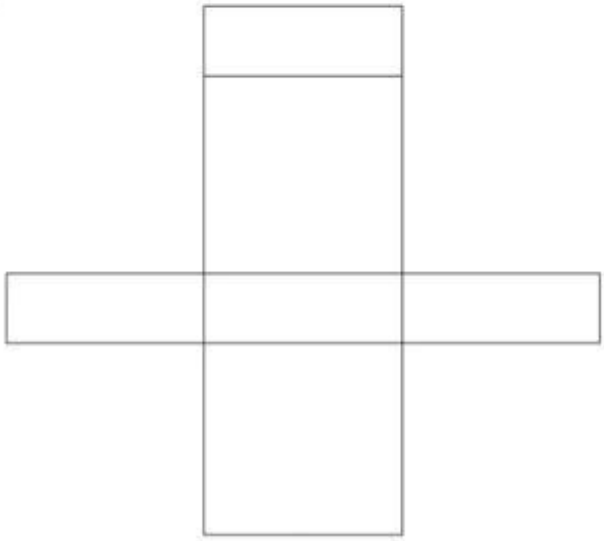
B



C



D



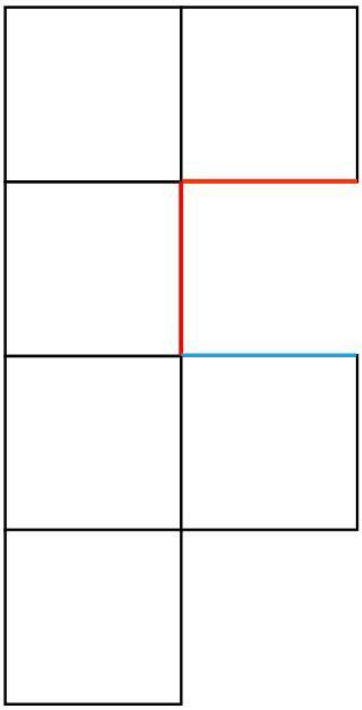
Solution:

First:

A rectangular prism has six sides, four making the body, and two making the ends.

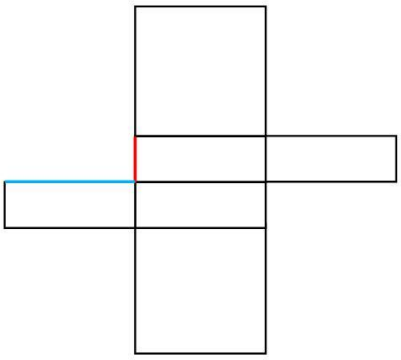
Looking at the answers, we can eliminate B, since it only has five sides.

Next:



When we try to fold this net into a prism, the red sides match up, but the blue side will overlap. In addition, there is no cover for the other end of the prism.

Therefore, we can eliminate A.



When we try to fold this net, the red side doesn't match the blue side. In addition, when you try to fold the body of the prism, you cannot create a rectangle.

After we eliminate C, D is the only option left.

Comment on this question

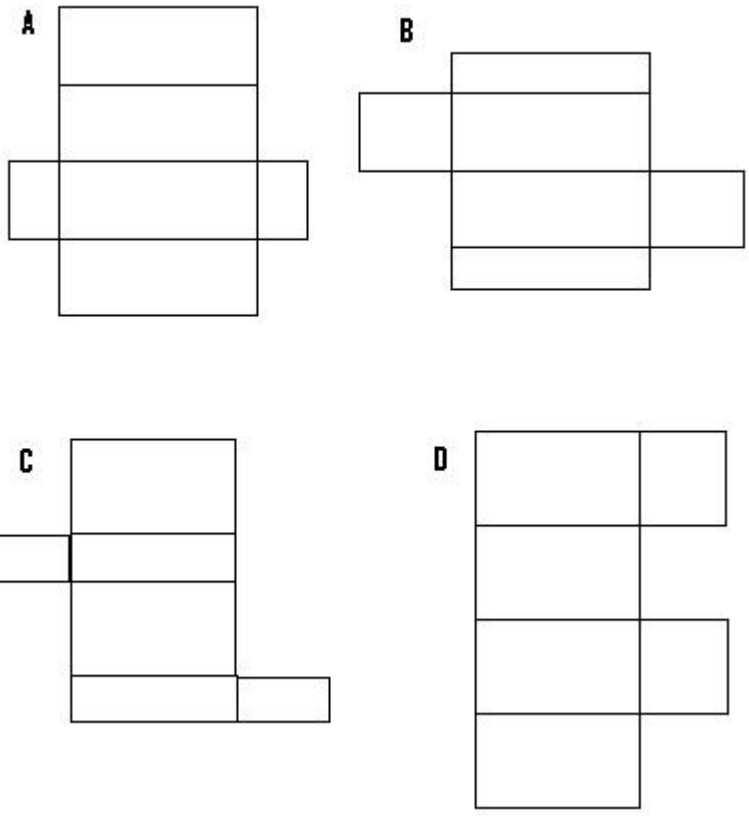
Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer
Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Which one of these nets can be folded to form a closed rectangular box?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question
Please select C.
Comment on this hint
Select one:

- A.
- B.
- C.
- D.

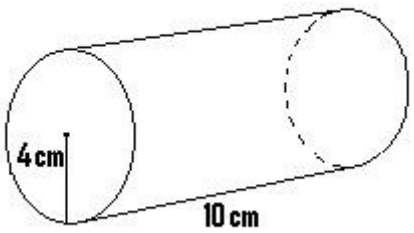
Submit Answer
Correct!
You are done with this problem!
Comment on this problem

Assistment #25711

Assistment

You are previewing content.

How many cubic cm is the volume of the given cylinder? Use 3.14 for pi.



Comment on this question

Request Help

Type your answer below (mathematical expression):

-

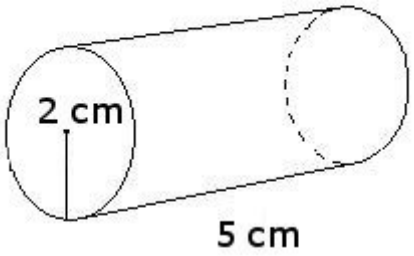
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

How many cubic cm is the volume of the given cylinder? Use 3.14 for pi.



Solution:

To find the volume of the cylinder, first we must find the area of the circle.

The formula for the area of the circle is pi * radius^2

For this problem, pi is 3.14 and the radius is 2

$3.14 * 2^2 = 12.56$ cm^2

We then multiply the area of the circle by the length of the cylinder

$12.56 * 5 = 62.8$ cm^3

The volume of the cylinder is 62.8

Comment on this question

Select one:

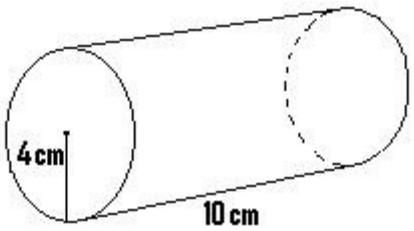
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

How many cubic cm is the volume of the given cylinder? Use 3.14 for pi.



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The volume of the cylinder is 502.4 cm^2

Please enter 502.4

Comment on this hint

Type your answer below (mathematical expression):

- 502.4

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

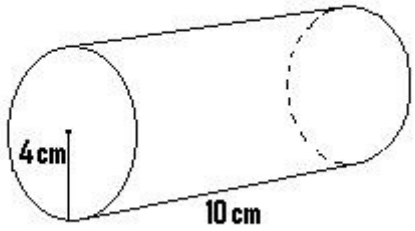
Assistment

Assistment #25712

You are previewing content.

How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number.

Use 3.14 for pi



Comment on this question

Request Help

Type your answer below:

-

Submit Answer

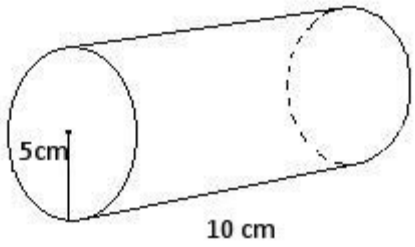
Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

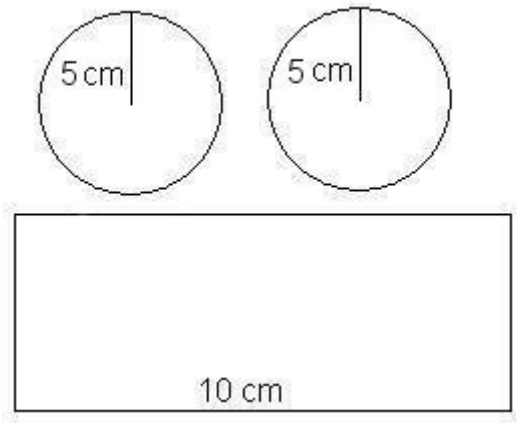
How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number.

Use 3.14 for pi

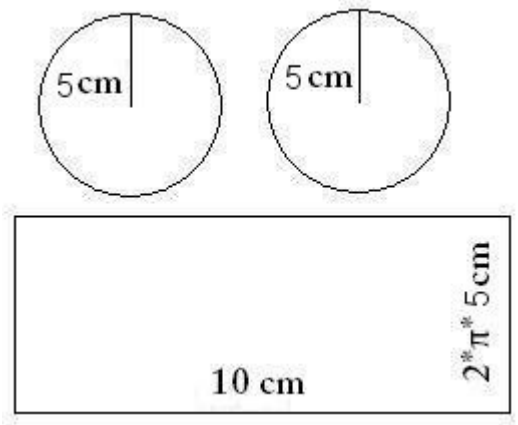


Solution:

To find the total surface area we have to find the surface area of the side and the ends.



The area of the side is found by taking the length of the side (10) and multiplying it by the circumference of the circle.



Area of the side = length of the side * circumference of the circle

circumference of the circle = 2 * radius of the circle * pi

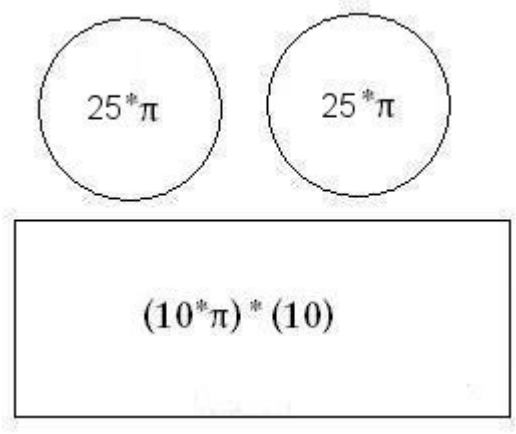
circumference of the circle = 2 * 5 * 3.14

circumference of the circle = 31.4

Area of the side = 10 cm * 31.4 cm

Area of the side = 314 cm^2

The area of the base is the area of a circle. Since there are two equal bases (one on the top and one on the bottom) we can find the area of one and multiply by two to get the total area of both bases.



Area of a circle = $radius^2$ * pi

Area of the circle = 5^2 * 3.14

Area of the circle = 78.5 cm^2

Now that we have the area of the side and the base, we have to add up the areas to get the total surface area.

area of the base = 78.5 cm^2.

area of the side = 314 cm^2

total surface area = area of the side + (2 * area of the base)

total surface area = 314 + (2 * 78.5)

total surface area = 314 + 157

total surface area = 471 cm^2

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

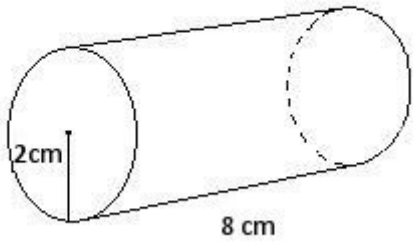
Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number.

Use 3.14 for pi



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The total surface area of the cylinder is 352 cm^2

Rounding this to the nearest whole number gets us 352 cm^2

Please enter 352

Comment on this hint

Type your answer below:

- 352

Submit Answer

Correct!

You are done with this problem!

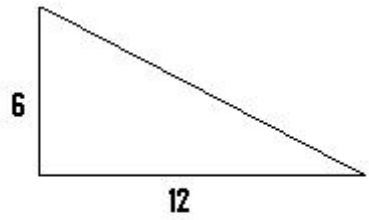
Comment on this problem

Assistment #25713

Assistment

You are previewing content.

How many cubic feet is the volume of the triangular prism that has a height of 8 feet and the base that is shown in the picture?



Comment on this question

Request Help

Type your answer below:

-

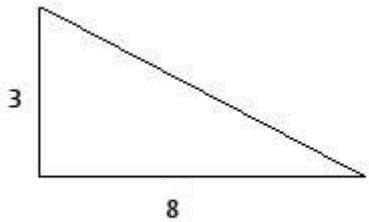
Submit Answer

Let's move on and figure out this problem

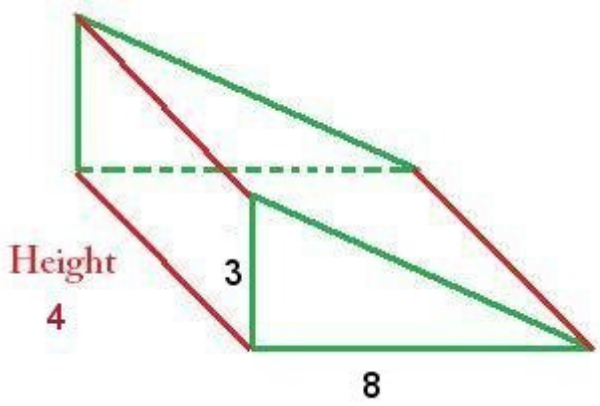
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

How many cubic feet is the volume of the triangular prism that has a height of 4 feet and the base that is shown in the picture?



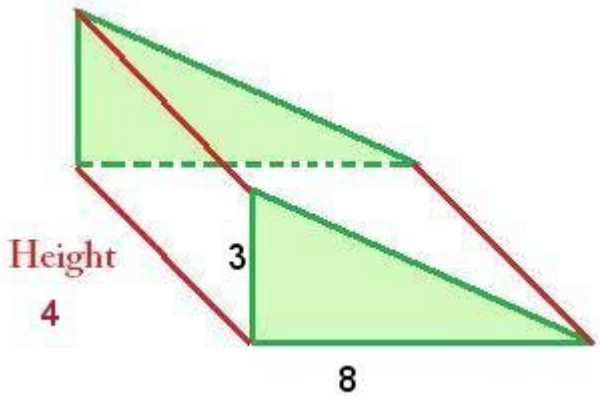
Solution:



The formula for the volume of a triangular prism is:

Area of the base * height of the prism

Since the base is a triangle, we must first determine the area of the triangle

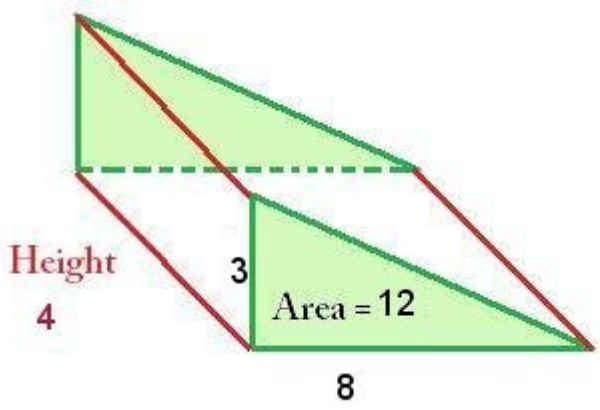


Area of a triangle = 1/2 * base of the triangle * height of the triangle

The base of the triangle is 8 and the height is 3, so the area of the triangle is:

8 * 3 * 1/2 = area of the triangle

Area of the triangle = 12 ft^2

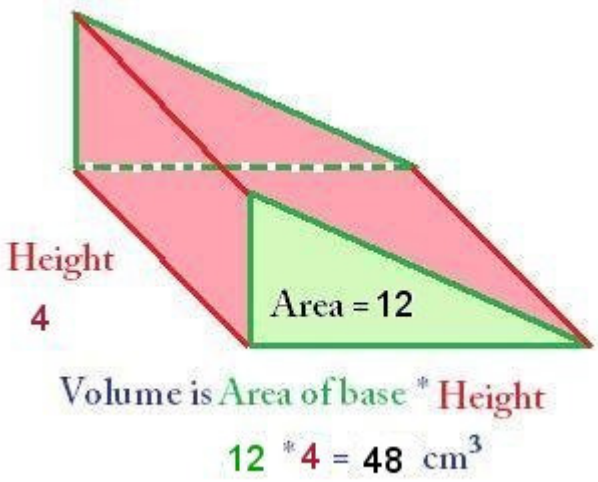


Now that we have the area of the triangle, we use this to find the volume

Volume = area of the triangle * height of the prism

Volume = 12 * 4

Volume = 48 ft^3



Comment on this question

Select one:

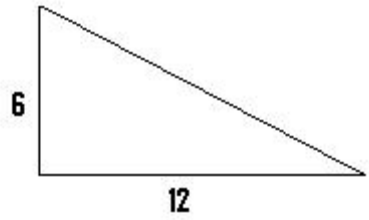
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

How many cubic feet is the volume of the triangular prism that has a height of 8 feet and the base that is shown in the picture?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The volume of the triangular prism is 288 ft^3

Please enter 288

Comment on this hint

Type your answer below:

- 288

Submit Answer

Correct!

You are done with this problem!

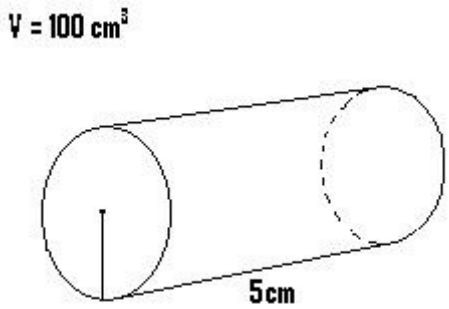
Comment on this problem

Assistment

Assistment #25714

You are previewing content.

Maria wants to design a can that holds 100 cubic cm of soup. If the can is 5 cm tall, what is the area of the lid of the can?



Comment on this question

Request Help

Type your answer below:

-

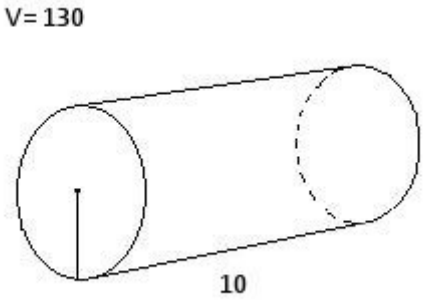
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Maria wants to design a can that holds 130 cubic cm of soup. If the can is 10 cm tall, what is the area of the lid of the can?



Solution:

The formula for the volume of a cylinder is:

Volume = area of base * height

We know volume (130) and height (10)

Filling in what we know,

130= area of the base * 10

We want to find the area of the base, so we solve for area of the base, giving us:

130 / 10 = area of the base

130/10 = 13

Area of the base = 13 cm^2

Comment on this question

Select one:

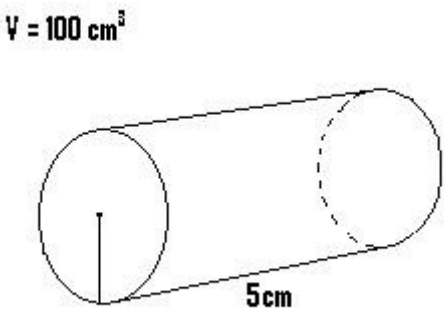
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Maria wants to design a can that holds 100 cubic cm of soup. If the can is 5 cm tall, what is the area of the lid of the can?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The area of the lid is 20 cm^2

Please enter 20

Comment on this hint

Type your answer below:

- 20

Submit Answer

Correct!

You are done with this problem!

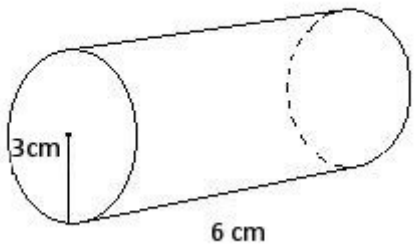
Comment on this problem

Assistment #25715

Assistment

You are previewing content.

How many cubic cm is the volume of the given cylinder? Use 3.14 for pi.



Comment on this question

Remember that the volume of a cylinder = the area of the circle * height
or
$\pi * r^2 * h$

Comment on this hint

Volume = pi * 3^2 * 6

Comment on this hint

Volume = 3.14 * 9 * 6

Comment on this hint

3.14 * 9 * 6 = 169.56 cm^3

please enter 169.56

Comment on this hint

Type your answer below:

- 169.56

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

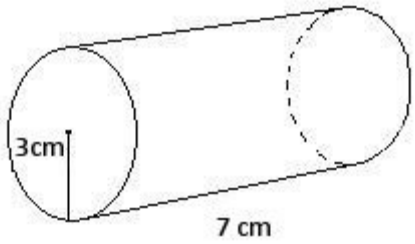
Assistment #25716

Assistment

You are previewing content.

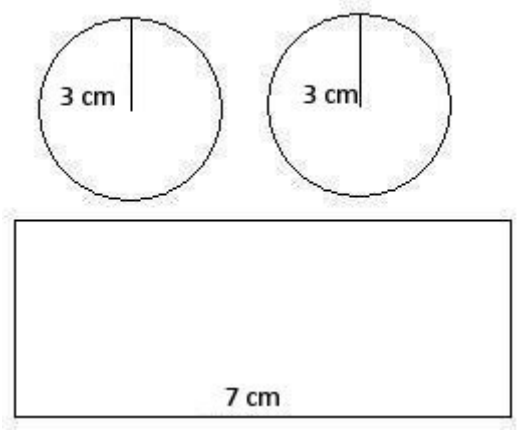
How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number?

Use 3.14 for pi



Comment on this question

Since the lateral surface area is the area of all the pieces that make up the cylinder it helps to make a drawing of the parts of the cylinder. Make this drawing on your paper, label it then try to find the total surface area.

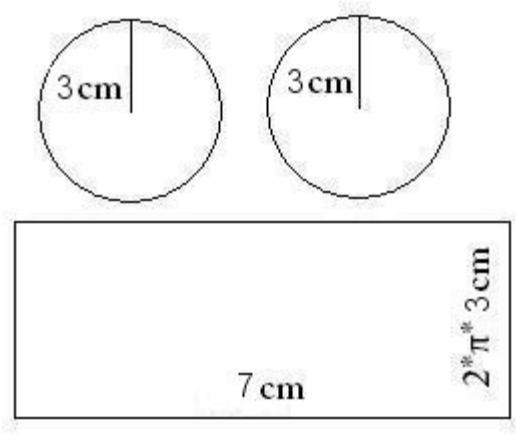


Comment on this hint

Remember that surface area = the area of the circle on the top + the area of the circle on the bottom + the area of the rectangle that makes up the cylinder. So start by finding the area of the two circles (they are identical).

Remember, the formula for area of a circle is $\pi * r^2$.

Comment on this hint



The total surface area of the two circles is:

$2 * (\pi * 3^2) = 18*\pi$

Comment on this hint

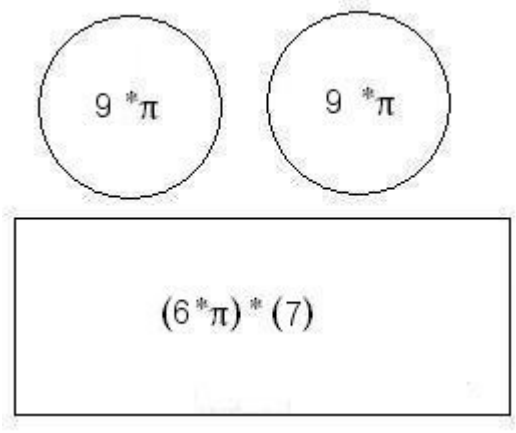
The total surface area of the two circles is:

$2 * (\pi * 32) = 18*\pi$

Now we need to add in the area of the rectangle. You can see from the original picture that the length of its side is the circumference of the circle, which is $2*\pi*3$cm.

To find the rectangle's area we need to multiply its height, $2*\pi*3$cm by its length, 7 cm.

Comment on this hint



The rectangle's surface area is $2*\pi*3*7$, or $42 * \pi$ cm^2.

We can add this to the circles' area of 18π cm^2 to find that the total surface area is

$42\pi+18\pi = 60\pi$ cm^2

substituting 3.14 for π, we get

$60*3.14= 188.4$ cm^2

If we round to the nearest whole number, the total surface area is 188 cm^2.

Please enter 188

Comment on this hint

Type your answer below:

- 188

Submit Answer

Correct!

You are done with this problem!

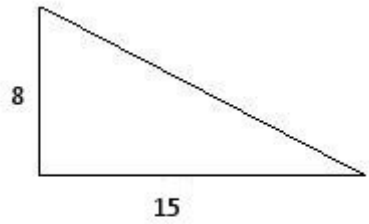
Comment on this problem

Assistment #25717

Assistment

You are previewing content.

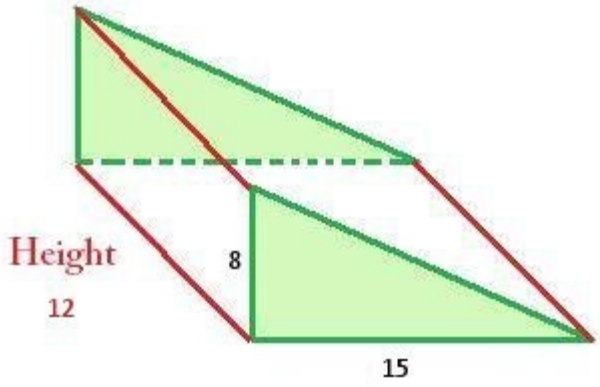
How many cubic feet is the volume of the triangular prism that has a height of 12 feet and the base that is shown in the picture?



Comment on this question

Start by drawing a sketch of the triangular prism and labeling it with the dimentions given.

Comment on this hint



Comment on this hint

Remember that the volume of a prism is

Area of the BASE * height of the prism.

The formula for the are of a triangle is:

1/2 * base of the triangle * height of the triangle

Comment on this hint

First solve for the area of the triangle

Area = 1/2 * base of triangle * height of triangle
A = 1/2 * (8) * (15)
A = 1/2 * 8 * 15

A = 60

Comment on this hint

Now solve for the volume.

Remember that the area of the triangle is 60 and the height of the prism is 12

The Volume of the prism is

Area of the BASE * height of the prism
V = 60 * 12

V=720

The Volume of the prism is 720 ft^3

please enter 720

Comment on this hint
Type your answer below:

- 720

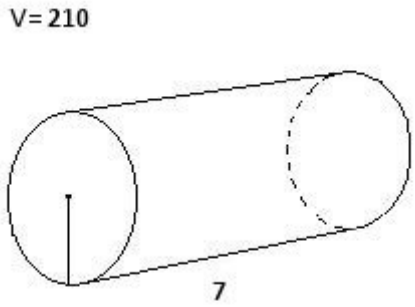
Submit Answer
Correct!
You are done with this problem!
Comment on this problem

Assistment #25718

Assistment

You are previewing content.

Maria wants to design a can that holds 210 cubic cm of soup. If the can is 7 cm tall, what is the area of the lid of the can?



Comment on this question

Remember that the volume of a cylinder = area of the base * h

Comment on this hint

The volume is 210 and the can is 7 tall, so solve for the area of the lid

Comment on this hint

volume = area of base * h
210 = A * 7
210/7 = A
30 = A

Comment on this hint

The area of the base is 30 cm^2. Please enter 30.

Comment on this hint

Type your answer below:

- 30

Submit Answer

Correct!

You are done with this problem!

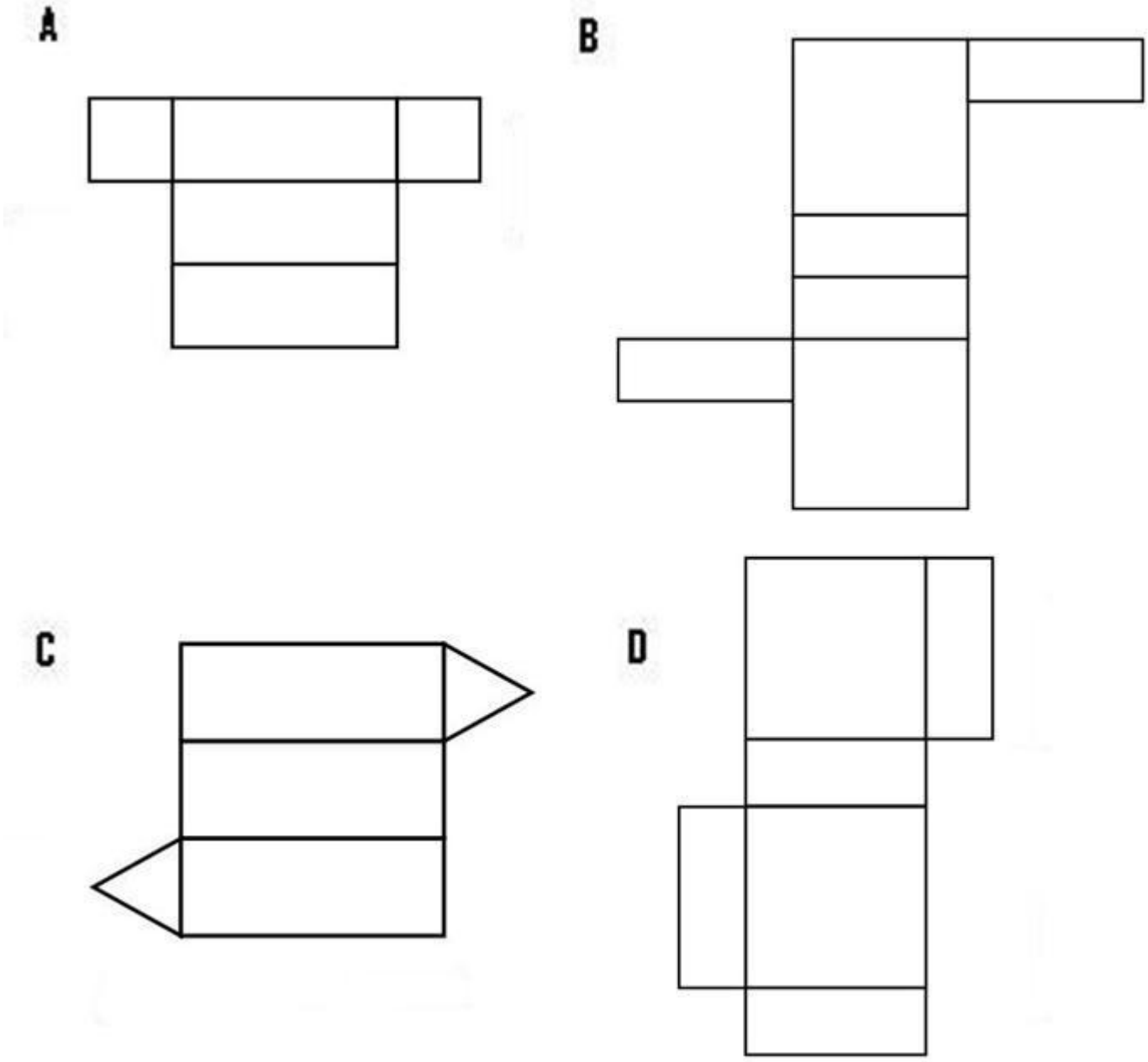
Comment on this problem

Assistment #25750

Assistment

You are previewing content.

Which one of these nets can be folded to form a closed rectangular box?



Comment on this question

Request Help

Select one:

- A.
- B.

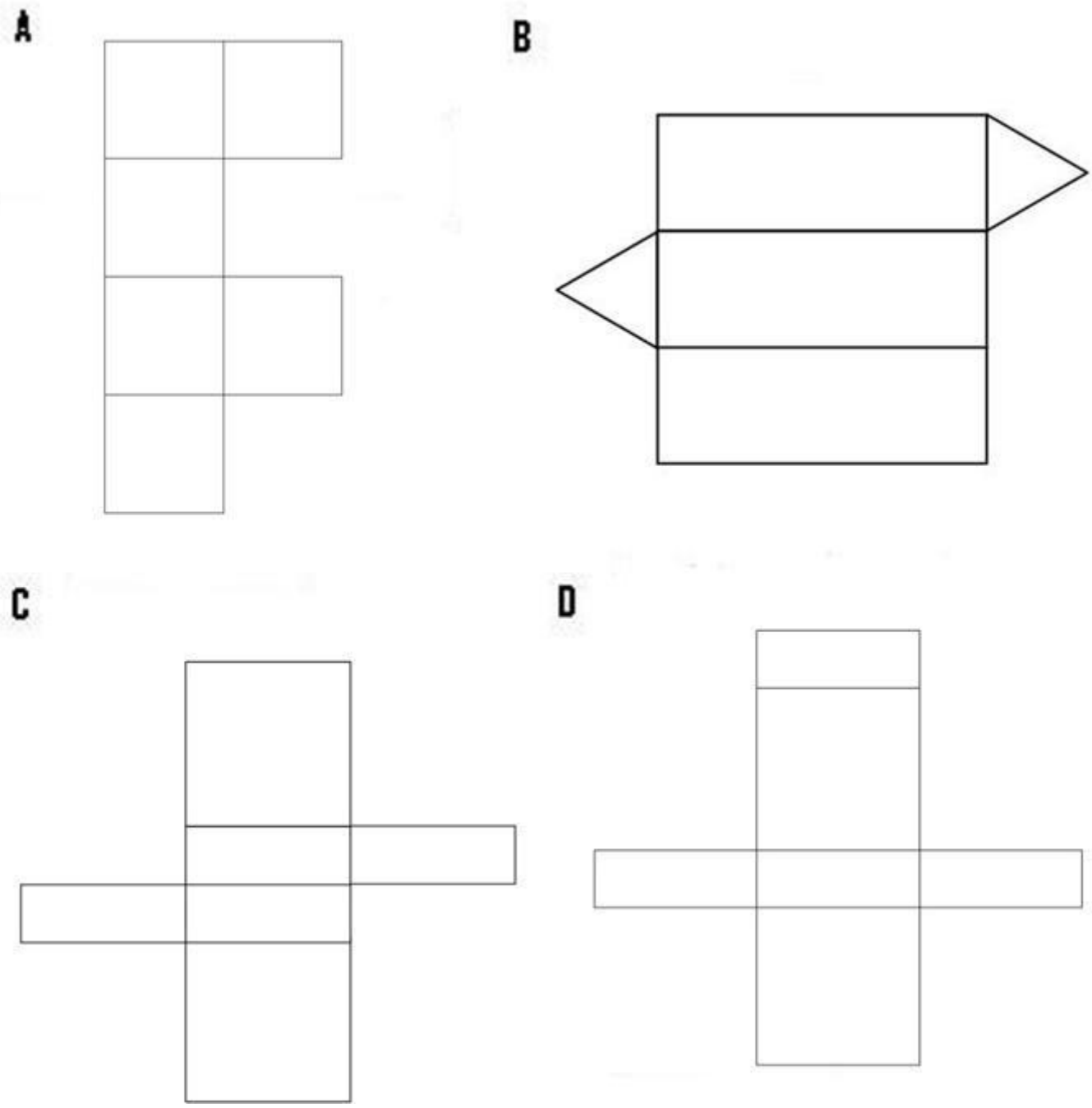
- C.
- D.

Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above

Problem:

Which one of these nets can be folded to form a closed rectangular box?



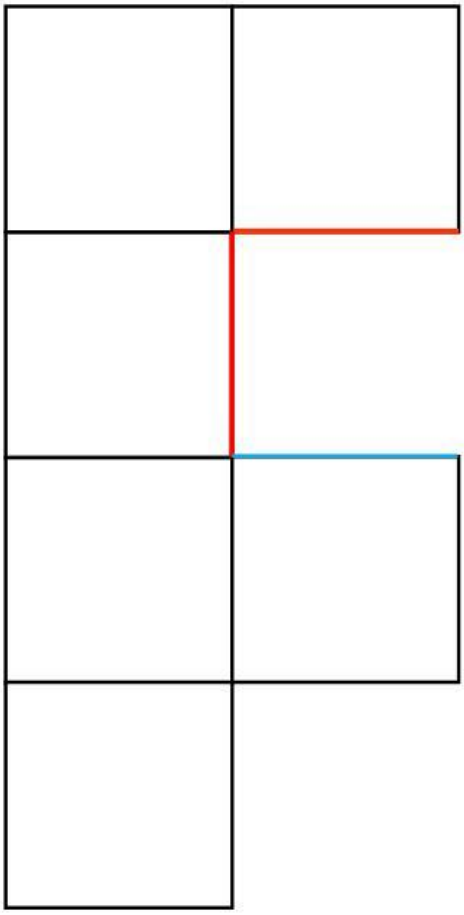
Solution:

First:

A rectangular prism has six sides, four making the body, and two making the ends.

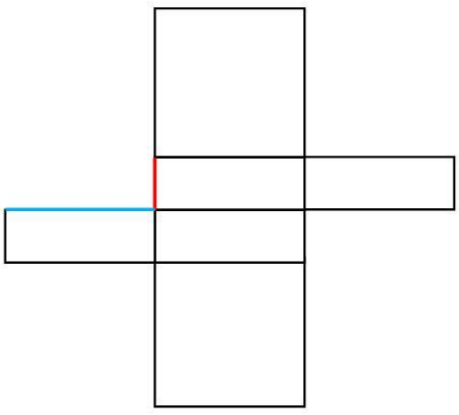
Looking at the answers, we can eliminate B, since it only has five sides.

Next:



When we try to fold this net into a prism, the red sides match up, but the blue side will overlap. In addition, there is no cover for the other end of the prism.

Therefore, we can eliminate A.



When we try to fold this net, the red side doesn't match the blue side. In addition, when you try to fold the body of the prism, you cannot create a rectangle.

After we eliminate C, D is the only option left.

Comment on this question

Select one:

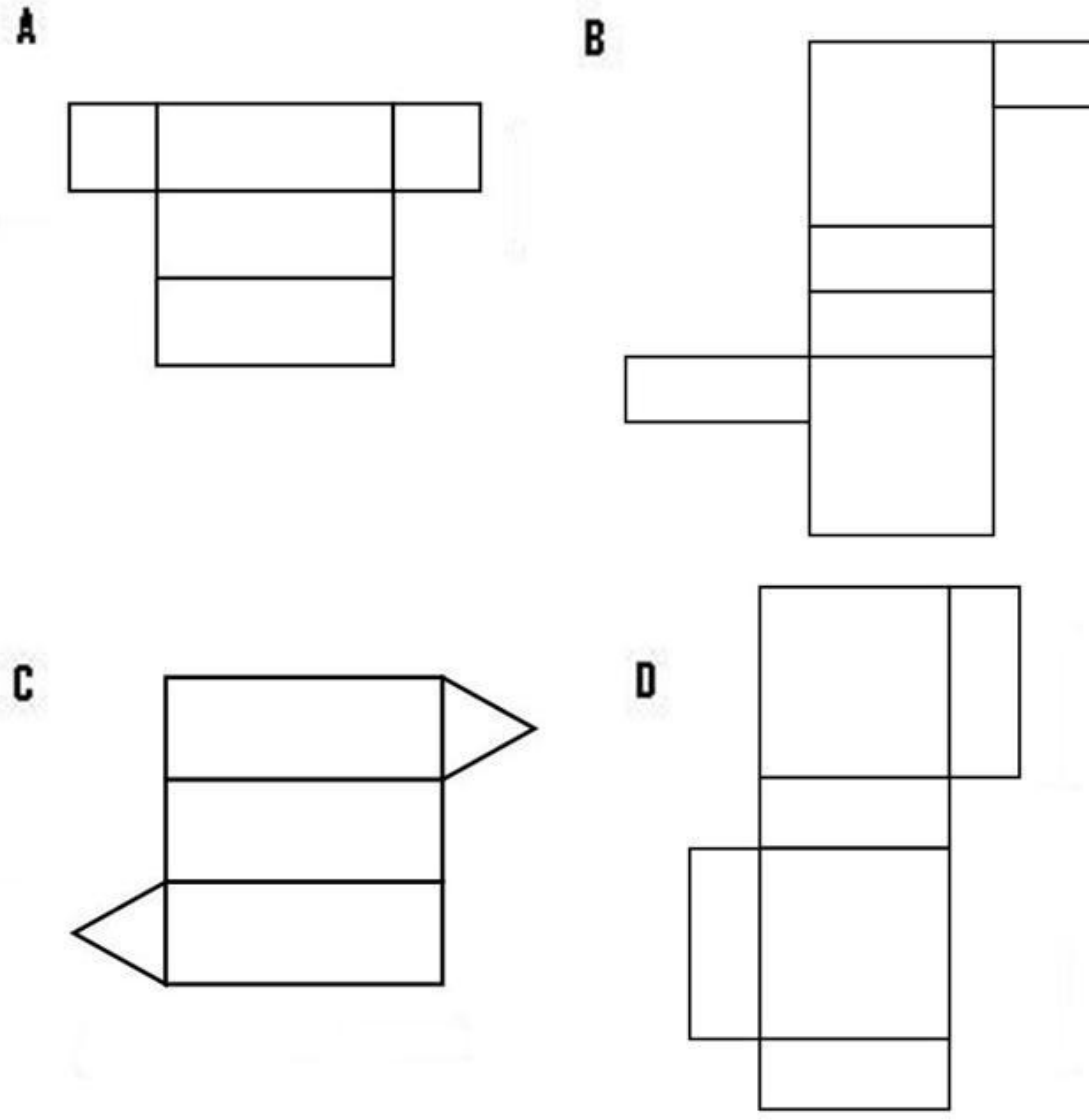
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Which one of these nets can be folded to form a closed rectangular box?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is D. Select D.

Comment on this hint

Select one:

- A.
- B.
- C.
- D.

Submit Answer

Correct!

You are done with this problem!

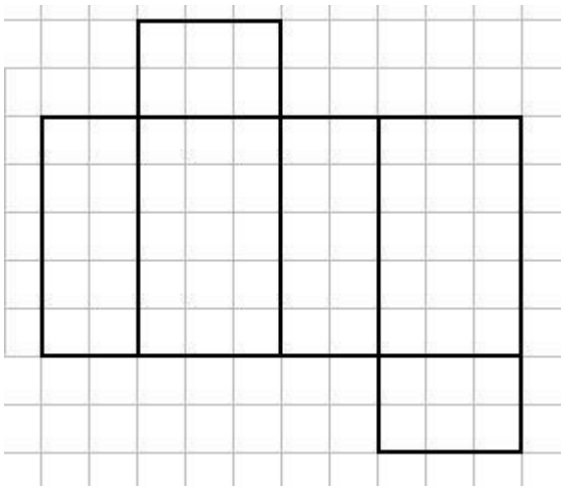
Comment on this problem

Assistment #25766

Assistment

You are previewing content.

What are the dimensions of the box made out of this net?



Comment on this question

Request Help

Select one:

- A. 30
- B. 3x3x2
- C. 2x3x5
- D. 2x3x2x3

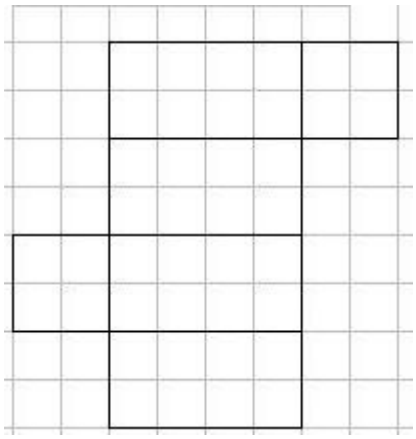
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

What are the dimensions of the box made out of this net?



Solution:

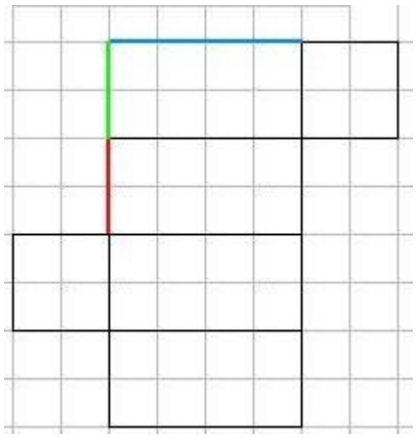
We are looking for the dimensions of the figure formed by the net.

Looking at the net, we have 6 sides in an arrangement that would form a rectangular prism.

A rectangular prism has three dimensions, length, width, and height

To determine these dimensions, we need to find the lengths of the edges that make up these components.

Looking at the figure below, three edges that don't overlap when folded are marked in red, green, and blue.



Red is two units long, green is two units long, and blue is four units long.

These are the dimensions of the rectangular prism, and can be placed in any order, since any of the dimensions could be height, depending on how the rectangular prism is placed.

Therefore, the dimensions can be:

2x2x4

4x2x2

2x4x2

Comment on this question

Select one:

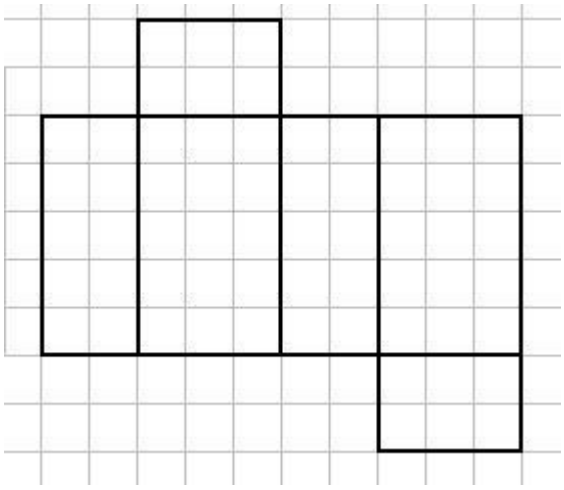
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

What are the dimensions of the box made out of this net?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The dimensions of the box are 2x3x5

Please select C.

Comment on this hint

Select one:

- A. 30
- B. 3x3x2
- C. 2x3x5
- D. 2x3x2x3

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25767

Assistment

You are previewing content.

A retangular box has dimensions 2 feet x 6 feet x 10 feet. It has 6 faces. Two have area 12ft^2; two have area 60ft^2. What is the area of one of the two remaining faces of the box? (It may help to draw a sketch)

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

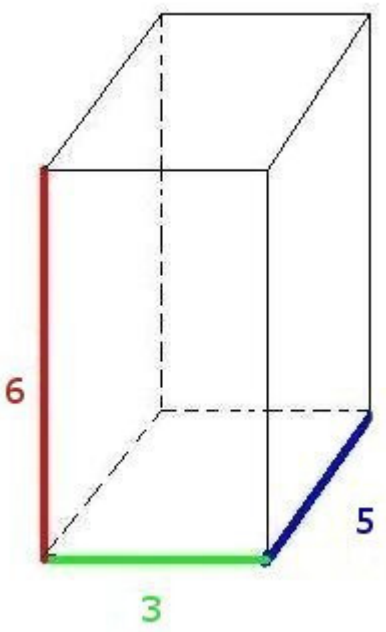
Problem:

A retangular box has dimensions 6 feet x 5 feet x 3 feet. It has 6 faces. Two have area 18ft^2; two have area 30ft^2. What is the area of one of the two remaining faces of the box? (It may help to draw a sketch)

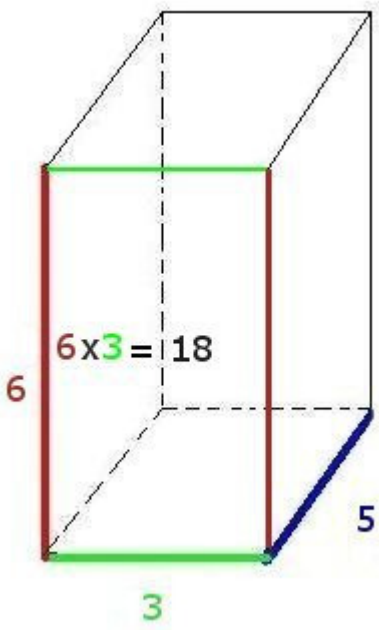
Solution:

Lets visualize this problem.

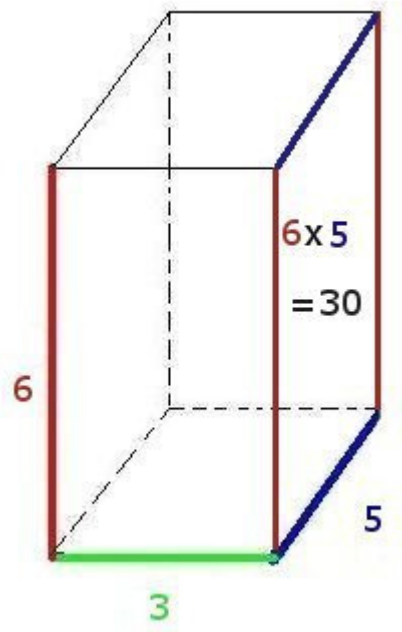
The box would specified looks like:



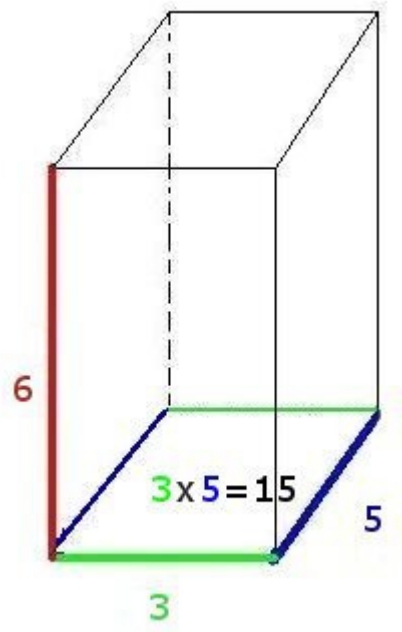
The front and back faces are 6x3 rectangles, with an area of 18 ft^2 each



The side faces are 5x6 rectangles, with an area of 30 ft^2 each



This leaves us with the top and bottom faces, which are 3x5 rectangles, with an area of 15 ft^2 each.



Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

A retangular box has dimensions 2 feet x 6 feet x 10 feet. It has 6 faces. Two have area $12ft^2$; two have area $60ft^2$. What is the area of one of the two remaining faces of the box? (It may help to draw a sketch)

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The area is 20 ft^2

Type in 20.

Comment on this hint

Type your answer below:

- 20

Submit Answer

That is not correct, try again.

Correct!

You are done with this problem!

Comment on this problem

Assistment #25768

Assistment

You are previewing content.
A closed cube has side length of 2 inches. How many square inches is the total surface area of the cube? (It may help to draw a sketch of the cube)

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

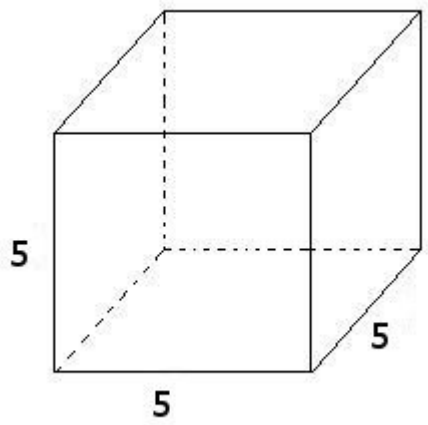
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

A closed cube has side length of 5 inches. How many square inches is the total surface area of the cube? (It may help to draw a sketch of the cube)

Solution:

First lets look at the cube.



A cube has six faces.

The total area of these faces is the surface area.

Lets find the **area of each face**:

Since each side is 5 inches long, the area of a face is 5 * 5 = **25 square inches**

Now we find the **total surface area**:

total surface area = 25 square inches per face * 6 faces
= 25 * 6
= 150 square inches

The total surface area is 150

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

A closed cube has side length of 2 inches. How many square inches is the total surface area of the cube? (It may help to draw a sketch of the cube)

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The total surface area is 24 square inches.

Please enter 24

Comment on this hint

Type your answer below:

- 24

Submit Answer

Correct!

You are done with this problem!

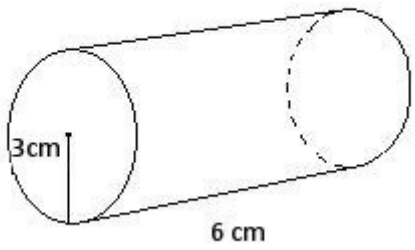
Comment on this problem

Assistment #25770

Assistment

You are previewing content.

How many cubic cm is the volume of the given cylinder? Use 3.14 for pi.



Comment on this question

Request Help

Type your answer below:

-

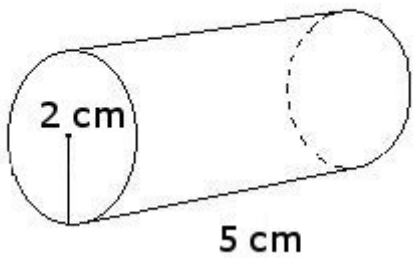
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

How many cubic cm is the volume of the given cylinder? Use 3.14 for pi.



Solution:

To find the volume of the cylinder, first we must find the area of the circle.

The formula for the area of the circle is pi * radius^2

For this problem, pi is 3.14 and the radius is 3

3.14 * 32 = 28.26 cm^2

We then multiply the area of the circle by the length of the cylinder

28.26 * 5 = 141.3 cm^3

The volume of the cylinder is 141.3

Comment on this question

Select one:

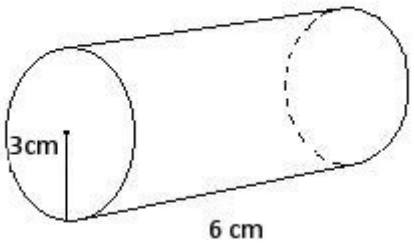
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

How many cubic cm is the volume of the given cylinder? Use 3.14 for pi.



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The volume in cubic cm is 169.56

Please enter 169.56

Comment on this hint

Type your answer below:

- 169.56

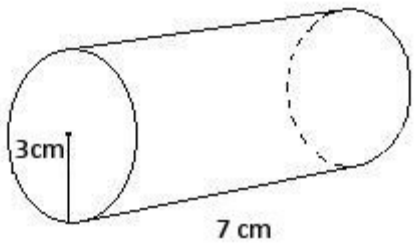
Submit Answer
No, try again
Correct!
You are done with this problem!
Comment on this problem

Assistment #25771

Assistment

You are previewing content.
How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number?

Use 3.14 for pi



Comment on this question

Request Help

Type your answer below:

-

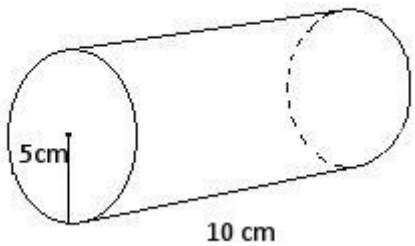
Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

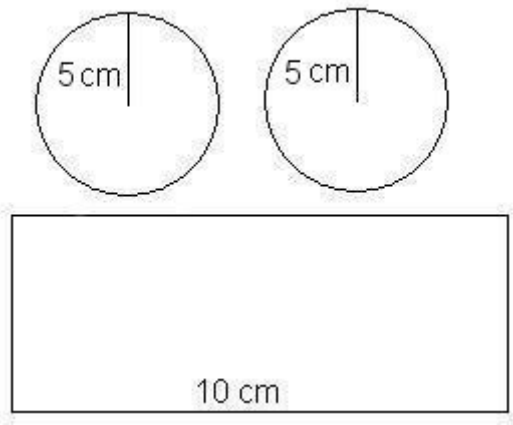
How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number.

Use 3.14 for pi

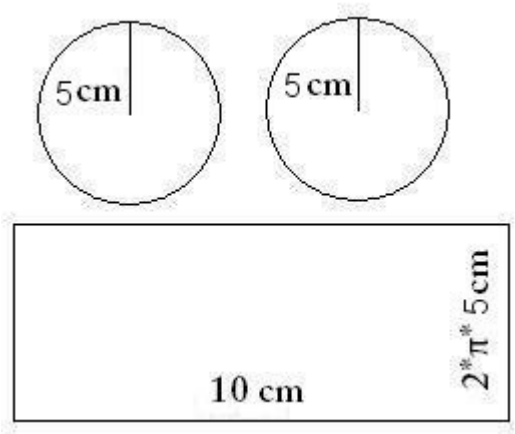


Solution:

To find the total surface area we have to find the surface area of the side and the ends.



The area of the side is found by taking the length of the side (10) and multiplying it by the circumference of the circle.



Area of the side = length of the side * circumference of the circle

circumference of the circle = 2 * radius of the circle * pi

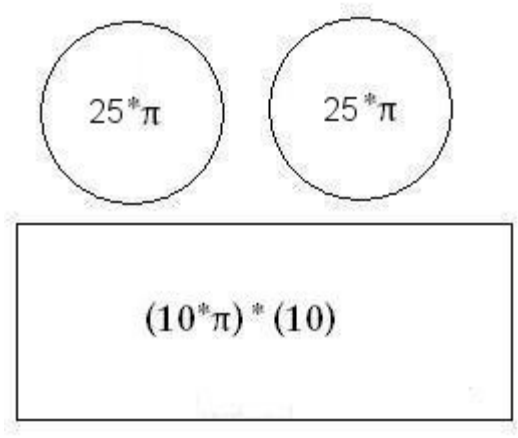
circumference of the circle = 2 * 5 * 3.14

circumference of the circle = 31.4

Area of the side = 10 cm * 31.4 cm

Area of the side = 314 cm^2

The area of the base is the area of a circle. Since there are two equal bases (one on the top and one on the bottom) we can find the area of one and multiply by two to get the total area of both bases.



Area of a circle = radius2 * pi

Area of the circle = 25 * 3.14

Area of the circle = 78.5 cm^2

Now that we have the area of the side and the base, we have to add up the areas to get the total surface area.

area of the base = 78.5 cm^2.

area of the side = 314 cm^2

total surface area = area of the side + (2 * area of the base)

total surface area = 314 + (2 * 78.5)

total surface area = 314 + 157

total surface area = 471 cm^2

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

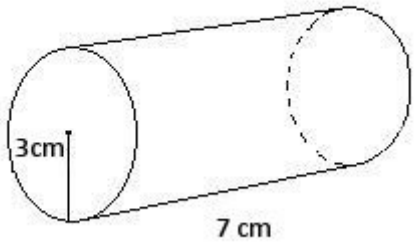
Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number.

Use 3.14 for pi



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The total surface area of this cylinder is 188 cm^2

Please enter 188

Comment on this hint

Type your answer below:

- 188

Submit Answer

Correct!

You are done with this problem!

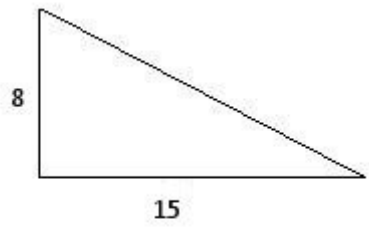
Comment on this problem

Assistment #25772

Assistment

You are previewing content.

How many cubic feet is the volume of the triangular prism that has a height of 12 feet and the base that is shown in the picture?



Comment on this question

Request Help

Type your answer below:

-

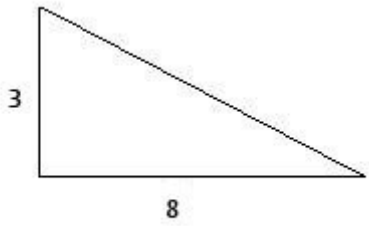
Submit Answer

Let's move on and figure out this problem

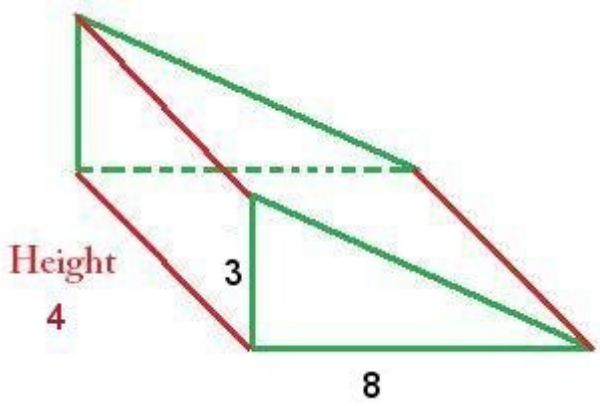
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

How many cubic feet is the volume of the triangular prism that has a height of 4 feet and the base that is shown in the picture?



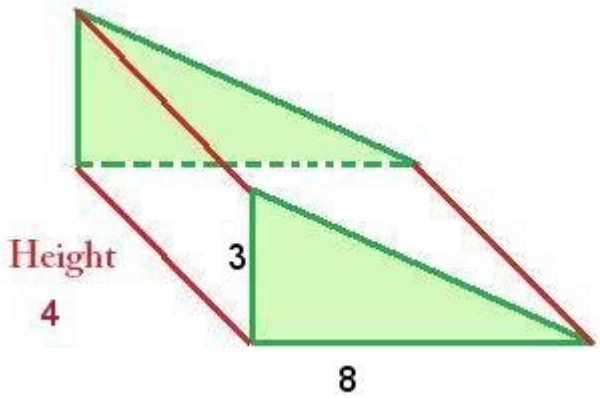
Solution:



The formula for the volume of a triangular prism is:

Area of the base * height of the prism

Since the base is a triangle, we must first determine the area of the triangle

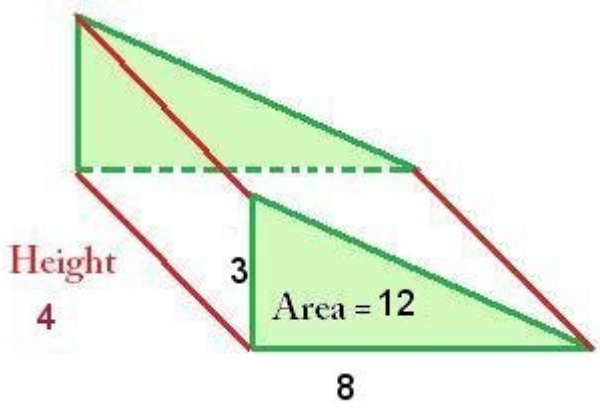


Area of a triangle = 1/2 * base of the triangle * height of the triangle

The base of the triangle is 8 and the height is 3, so the area of the triangle is:

8 * 3 * 1/2 = area of the triangle

Area of the triangle = 12 ft^2

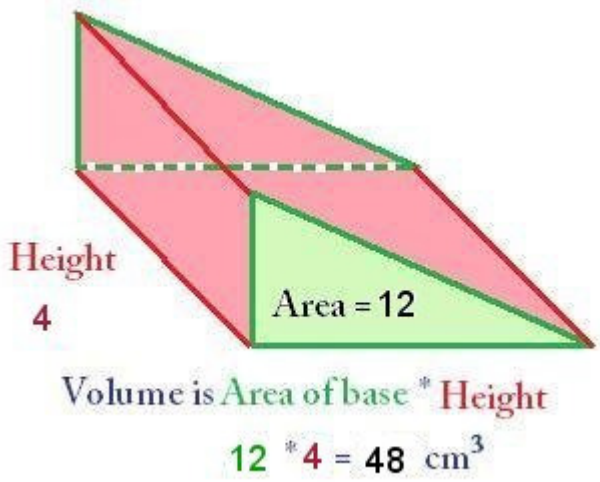


Now that we have the area of the triangle, we use this to find the volume

Volume = area of the triangle * height of the prism

Volume = 12 * 4

Volume = 48 ft^3



Comment on this question

Select one:

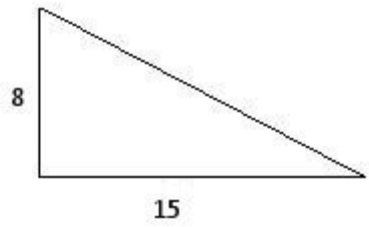
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

How many cubic feet is the volume of the triangular prism that has a height of 12 feet and the base that is shown in the picture?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The volume is 720 ft^3

Please enter 720

Comment on this hint

Type your answer below:

- 720

Submit Answer

Correct!

You are done with this problem!

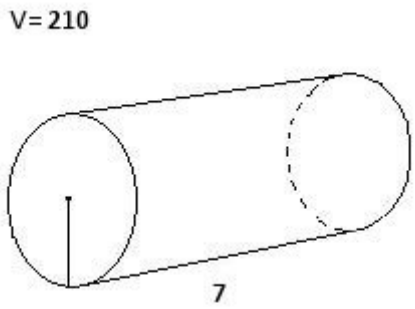
Comment on this problem

Assistment

Assistment #25773

You are previewing content.

Maria wants to design a can that holds 210 cubic cm of soup. If the can is 7 cm tall, what is the area of the lid of the can?



Comment on this question

Request Help

Type your answer below:

-

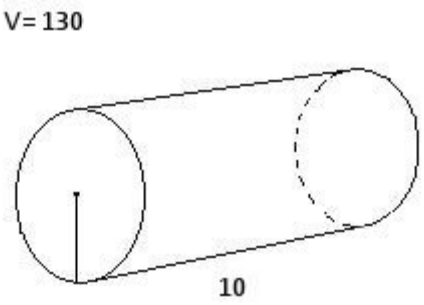
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Maria wants to design a can that holds 130 cubic cm of soup. If the can is 10 cm tall, what is the area of the lid of the can?



Solution:

The formula for the volume of a cylinder is:

Volume = area of base * height

We know volume (130) and height (10)

Filling in what we know,

130 = area of the base * 10

We want to find the area of the base, so we solve for area of the base, giving us:

130 / 10 = area of the base

130 / 10 = 13

Area of the base = 13 cm^2

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

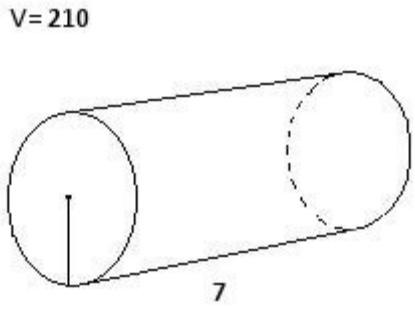
Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Maria wants to design a can that holds 210 cubic cm of soup. If the can is 7 cm tall, what is the area of the lid

of the can?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The area of the lid is 30 cm^2

Please enter 30

Comment on this hint

Type your answer below:

- 30

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #12291

Assistment

You are previewing content.
Find the Sum.
3.7 + -1.5

Comment on this question

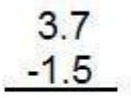
Adding a negative is the same as subtracting.

3.7 + -1.5

3.7 - 1.5

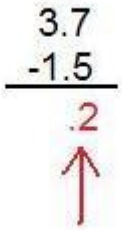
Comment on this hint

This should be how the problem is set up on your paper.



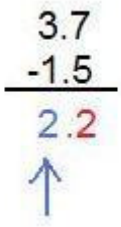
Comment on this hint

Now evaluate the rightmost number.



Comment on this hint

Now evaluate the next number



Comment on this hint

The answer is 2.2 please type in 2.2

Comment on this hint

Type your answer below (mathematical expression):

- 2.2

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

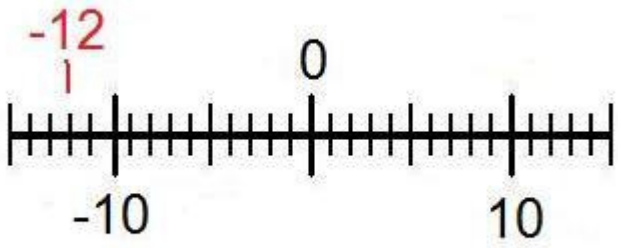
Assistment #12292

Assistment

You are previewing content.
Find the Sum.
-12 + 7

Comment on this question

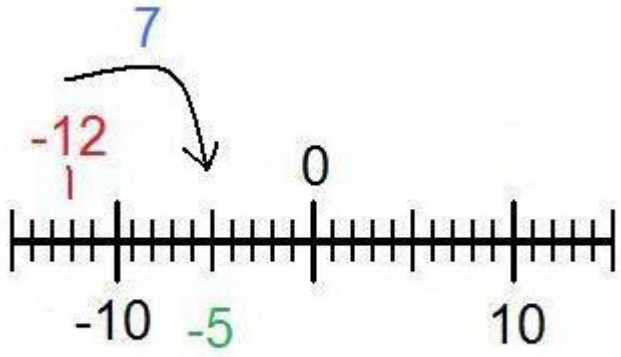
Here is a numberline to help visualize the problem.



Comment on this hint

To use the number line for -12 + 7 start at -12 and move to the right (positive direction) 7 spaces.

Comment on this hint



Comment on this hint

You can also use the rule for adding integers. That is that if the numbers have different signs subtract (12 - 7 = 5) and then add the sign of the number with the greatest absolute value (or farthest from zero) so the answer is -5. Please type in -5.

Comment on this hint

Type your answer below (mathematical expression):

- -5

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #12293

Assistment

You are previewing content.
Find the sum.
-3/4 + 1/4

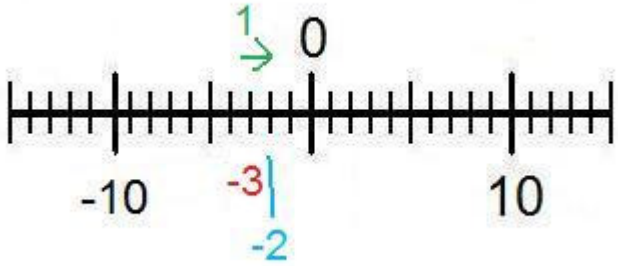
Comment on this question

When adding or subtracting fractions you must first make sure that the denominators (bottom of the fraction) are equal. In this case they are both 4.

$$\frac{-3}{4} + \frac{1}{4}$$

Comment on this hint

Now we just have to evaluate the numerators (top of the fraction) like you would normal integers. Here is a numberline to help visualize the problem.



Comment on this hint

-3 + 1 = -2

Now we put the denominator back and we get the answer of -2/4

Comment on this hint

Type your answer below (mathematical expression):

- -2/4

Submit Answer
Correct!
You are done with this problem!

Comment on this problem

Assistment #12294

Assistment

You are previewing content.
Find the difference.
-20 - (-60)

Comment on this question

To make this problem easier you should first simplify the signs.

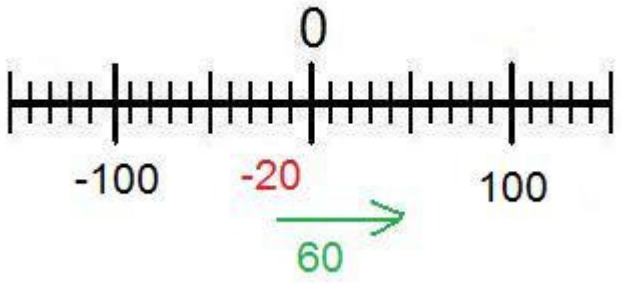
Subtracting a negative number is the same thing as adding a positive number

-20 - (-60)

-20 + 60

Comment on this hint

Now we can use a numberline to help solve the problem.



Comment on this hint

Start at -20, move 60 places to the right (the positive direction) and end at 40, therefore the answer is 40.

You could also use the rule for adding integers, that is if two integers have different signs, subtract them and add the sign of the number with the highest absolute value (furthest from 0)

60 - 20 = 40

60 > 20

40

Comment on this hint

Type your answer below (mathematical expression):

- 40

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #12295

Assistment

You are previewing content.
Find the difference.
16 - (-5)

Comment on this question

To solve this problem just remember that subtracting a negative number is the same as adding a positive number

16 - (-5)

16 + 5

Comment on this hint

Now just evaluate 16 + 5

16 + 5 = ?

Comment on this hint

16 + 5 = 21

The answer is 21 please type in 21.

Comment on this hint

Type your answer below (mathematical expression):

- 21

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

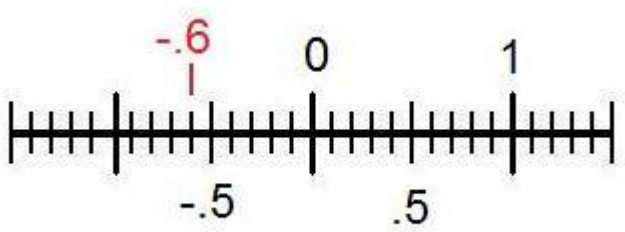
Assistment #12296

Assistment

You are previewing content.
Find the difference.
-0.6 - 0.3

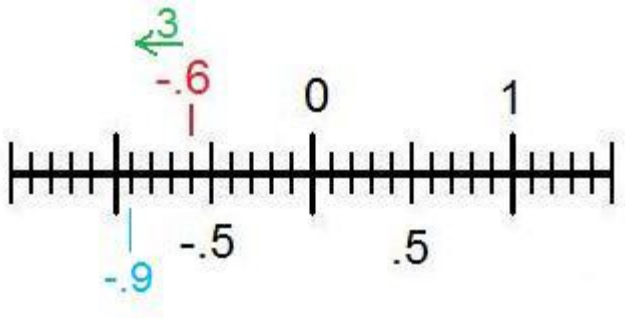
Comment on this question

To help visualize this problem we should create a numberline.



Comment on this hint

Since we are subtracting we move 0.3 spaces in the negative direction (left).



Comment on this hint
The correct answer is -0.9. Please enter -0.9
Comment on this hint
Type your answer below (mathematical expression):

- -.9

Submit Answer
Correct!
You are done with this problem!
Comment on this problem

Assistment #12297

Assistment

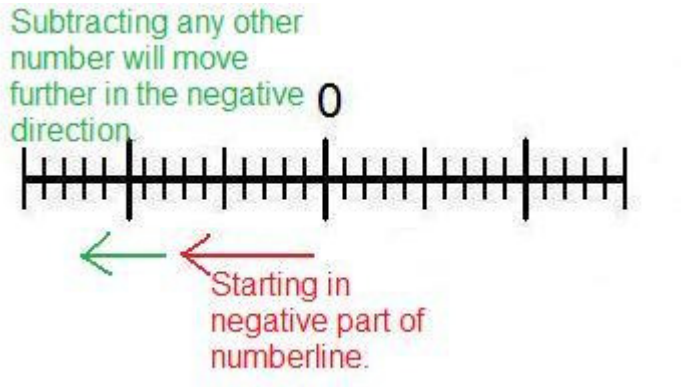
You are previewing content.
In this problem you don't have to give the numeric answer.
Just tell whether the answer is positive or negative.

-21.5 - 17

Comment on this question

Subtracting a negative number from a negative number will always give a negative number.

Comment on this hint



Comment on this hint

The answer is Negative, please select B. Negative

Comment on this hint

Select one:

- A. Positive +
- B. Negative -

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #12298

Assistment

You are previewing content.

In this problem, you don't have to give the numeric answer.
Just tell whether the answer is positive or negative.

4.2 - (-7.5)

Comment on this question

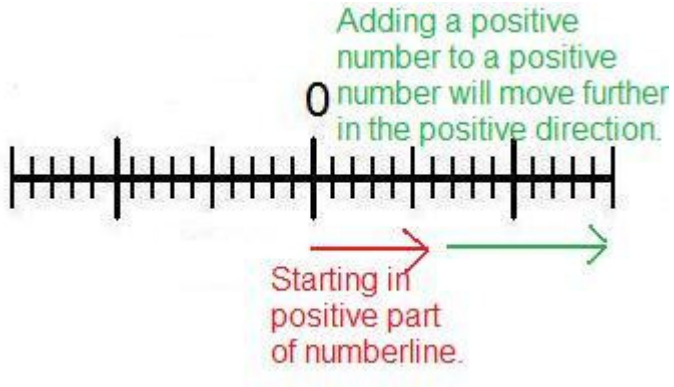
Remember, subtracting a negative number is the same as adding.

4.2 - (-7.5)

4.2 + 7.5

Comment on this hint

Adding a positive number to a positive number will always yield a positive number.



Comment on this hint

The correct answer is 'A. Positive'.

Comment on this hint

Select one:

- A. Positive +
- B. Negative -

Submit Answer

Correct!

You are done with this problem!

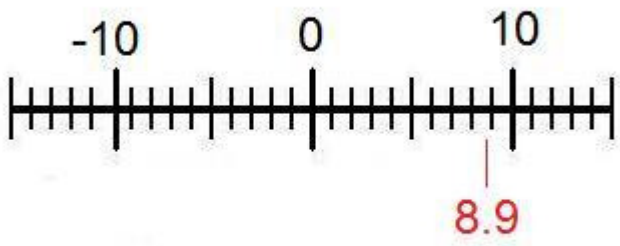
Comment on this problem

Assistment #12299

Assistment

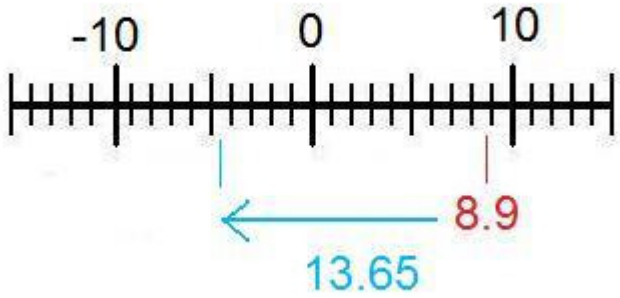
You are previewing content.
In this problem you don't have to give the numerical answer.
Just tell whether the answer is positive or negative.
8.9 - 13.65

Comment on this question



Here is a number line to help you solve this problem.

Comment on this hint



We know that 8.9 is 8.9 units away from 0, if you are subtractive 13.65, which is greater than 8.9 then you will be passing 0 onto the negative side of the number line

Comment on this hint

The correct answer is B.Negative-.

You can also use the rule for adding integers. That is that if the numbers have different signs subtract (8.9 - 13.65 = -4.75) and then add the sign of the number with the greatest absolute value (or farthest from zero).

13.65 > 8.9

-4.75

Comment on this hint

Select one:

- A. Positive +
- B. Negative -

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #12314

Assistment

You are previewing content.
Evaluate the expression please
4 + 2 * (-5) - (-9)

Comment on this question

Using the order of operations (parenthesis, exponents, division and multiplication from left to right, addition and subtraction from left to right), the first step in this question would be to do

4 + 2 x (-5) - (-9)

because there are no exponents and the parenthesis are only to help distinguish the signs.

Comment on this hint

Now that we have gone through the first 4 operations in the order of operations (parenthesis, exponents, multiplication, and division) the only operations left are addition and subtraction from left to right. On your paper you should already have.

4 + 2 x (-5) - (-9)

4 + (-10) – (-9)

Comment on this hint

In order to make it easier you can change everything to addition. Remember two negatives equals a positive.

4+2x(-5)-(-9)

4+(-10)-(-9)

4+(-10)+9

Comment on this hint

Now evaluate from left to right.

4+2x(-5)-(-9)

4+(-10)-(-9)

4+(-10)+9

-6 + 9

Comment on this hint

4+2x(-5)-(-9)

4+(-10)-(-9)

4+(-10)+9

-6 + 9

3

Comment on this hint

Type your answer below (mathematical expression):

- 3

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #12315

Assistment

You are previewing content.
Evaluate the expression
5 x (7 + (-9)) - 3
Comment on this question

To solve the expression, we must obey the order of operations(parenthesis, exponents, multiplication and division from left to right, addition and subtractionfrom left to right). We first look at the expression in the inner-most parentheses.

5x(7+(-9))-3

Comment on this hint

5x(7+(-9))-3

5x(-2)-3

Comment on this hint

The next step is multiplication from left to right.

5x(7+(-9))-3

5x(-2)-3

-10-3

Comment on this hint

The last step is to evaluate addition and subtraction from left to right.

5x(7+(-9))-3

5x(-2)-3

-10-3

-13

Comment on this hint
The answer is -13, please type in -13
Comment on this hint
Type your answer below (mathematical expression):

- -13

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #12333

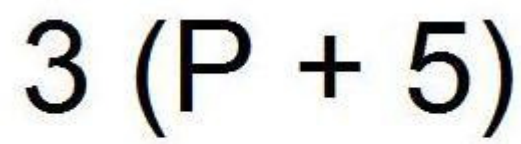
Assistment

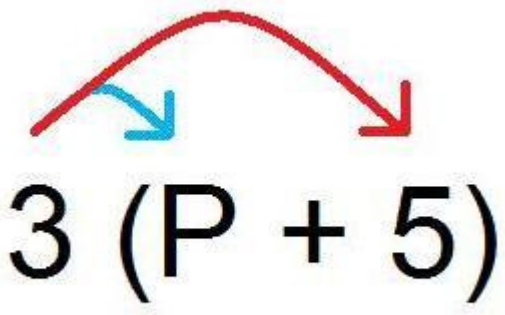
You are previewing content.
Find the product
3(p + 5)

Comment on this question

You need to use the distributive property to find the product.

Comment on this hint





Comment on this hint

3xP = 3P

3x5 = 15

Comment on this hint

Now combine the two parts

3(p+5)=3p+15

Comment on this hint

Select one:

- A. 3p - 5
- B. 3p + 5
- C. 3p - 15
- D. 3p + 15

Submit Answer

Correct!

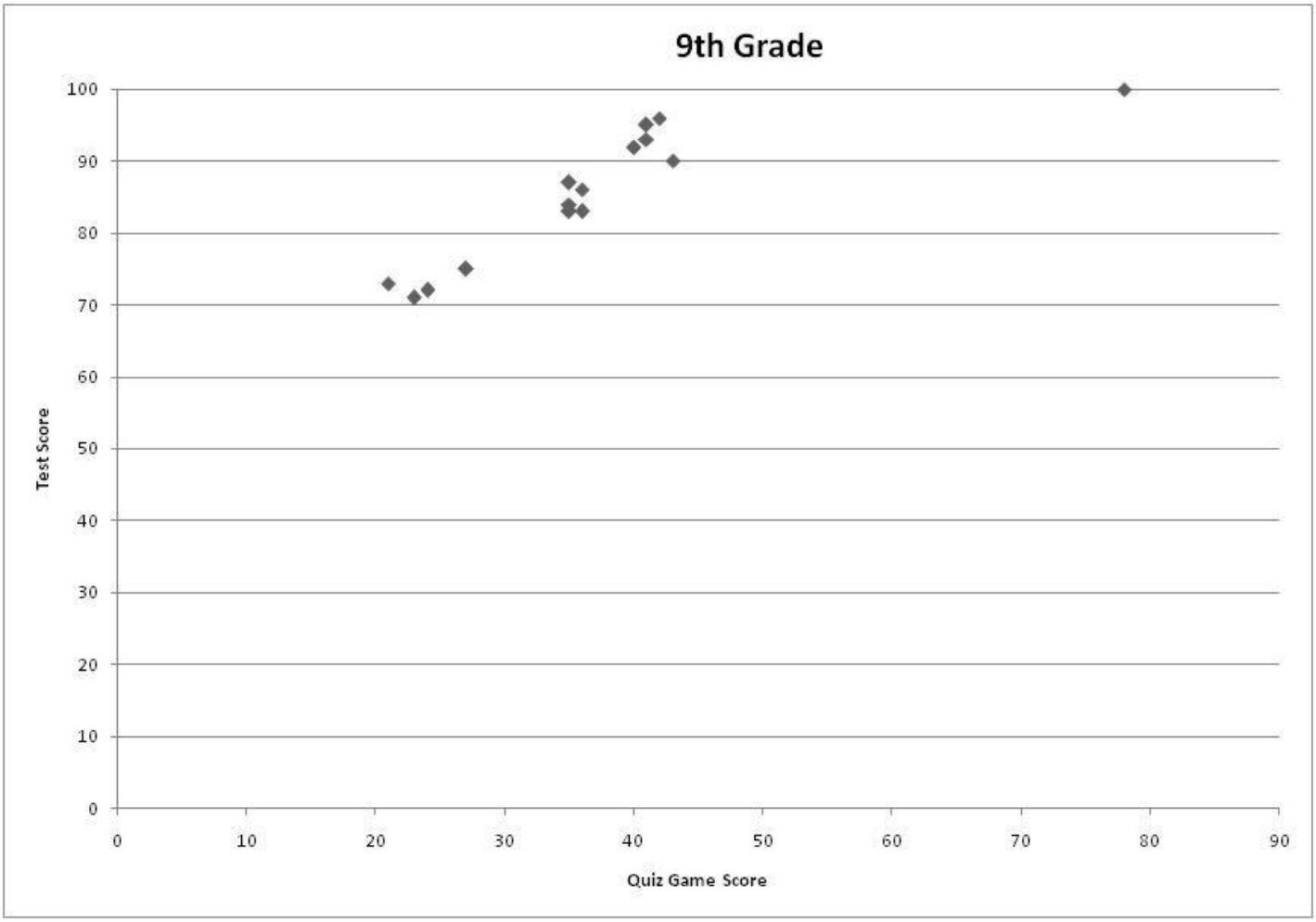
You are done with this problem!

Comment on this problem

Assistment #24798

Assistment

You are previewing content.



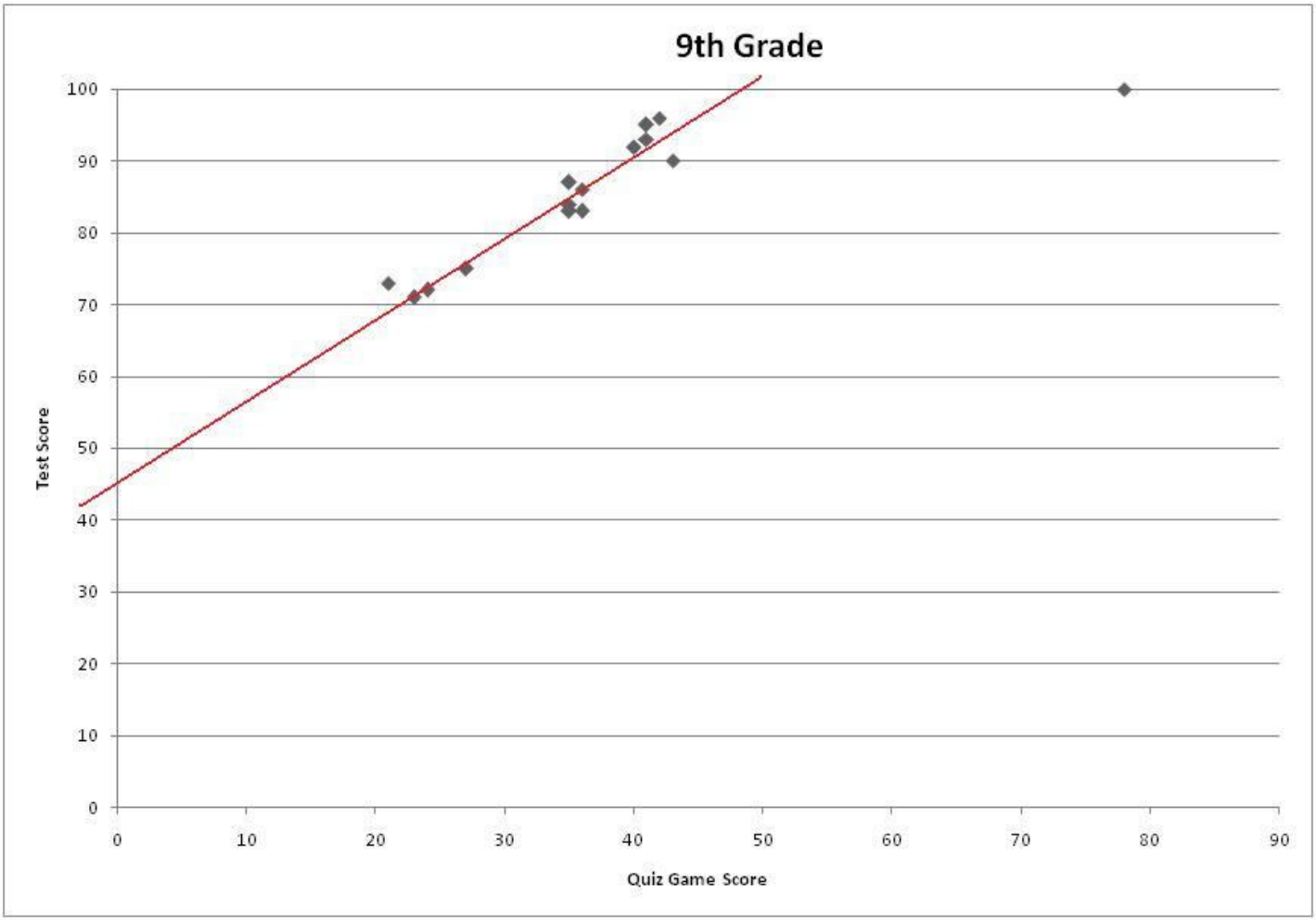
Which equation best models the data on the scatter plot?

Comment on this question

First we should draw a line of best fit for the scatter plot (note: the point at the very top right corner can be disregarded as an outlier).

Comment on this hint

Here is the scatter plot with a line of best fit



Comment on this hint

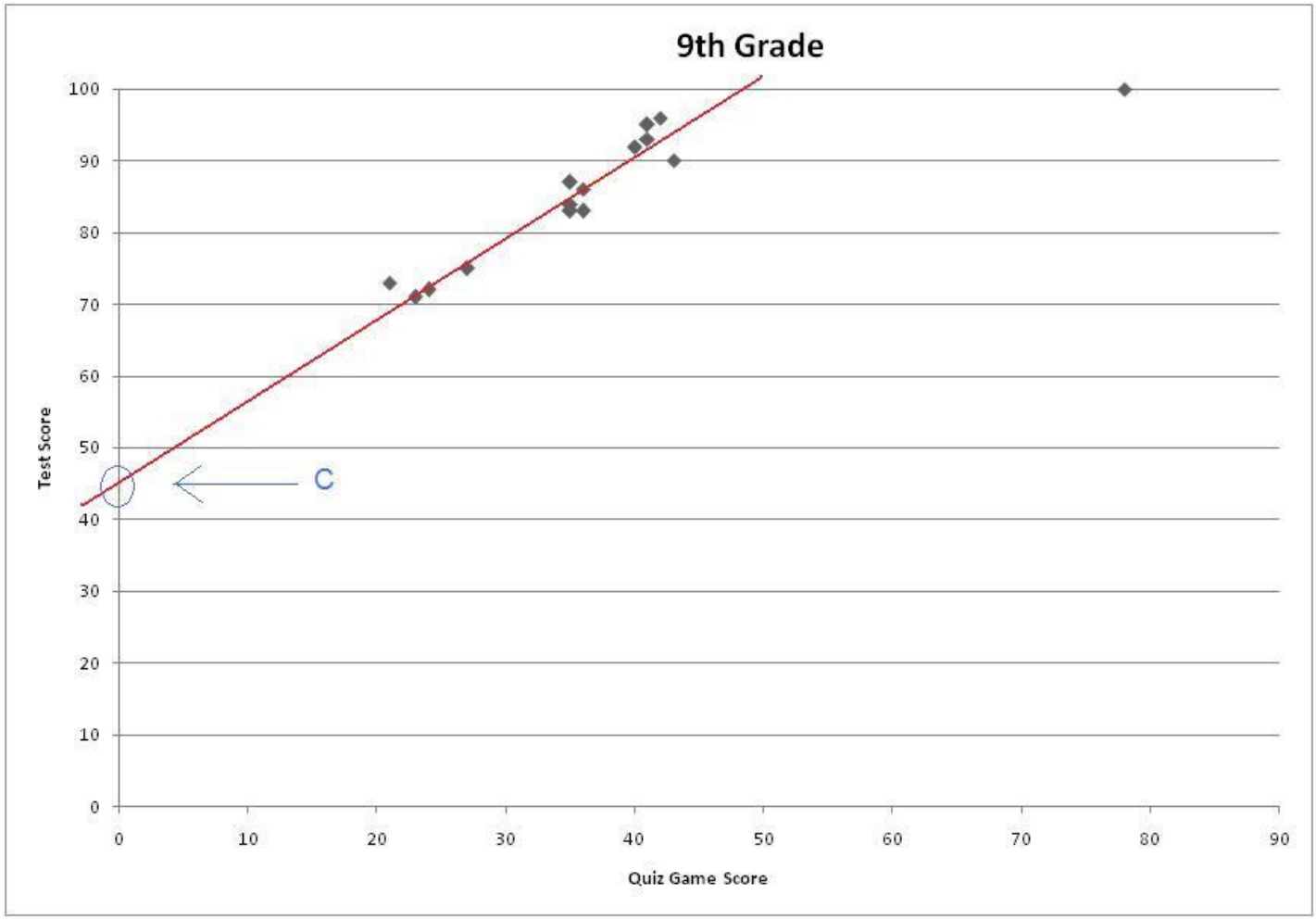
Now lets break down the equation for a line.

y = mx + b

m is the slope of the line (how steep it is)

b is the y intercept (where the line intercects the y axis).

Comment on this hint



The y intercept is somewhere around 45. Therefore we know the only two answers it could be are .8x + 45 and -2x + 45.

Comment on this hint

We should now look at the slope of the line. look at the only two equations that have an appropriate y-intercept. One has a negative slope and the other has a positive slope. Which one matches the line of best fit?

Comment on this hint

Since this line is increasing we know that the slope has to be positive, therefore the answer is y = .8x + 45.

Comment on this hint

Select one:

- Y=.8x+45
- Y=-2x+45
- Y=-.5x+5
- Y=.6x+60

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

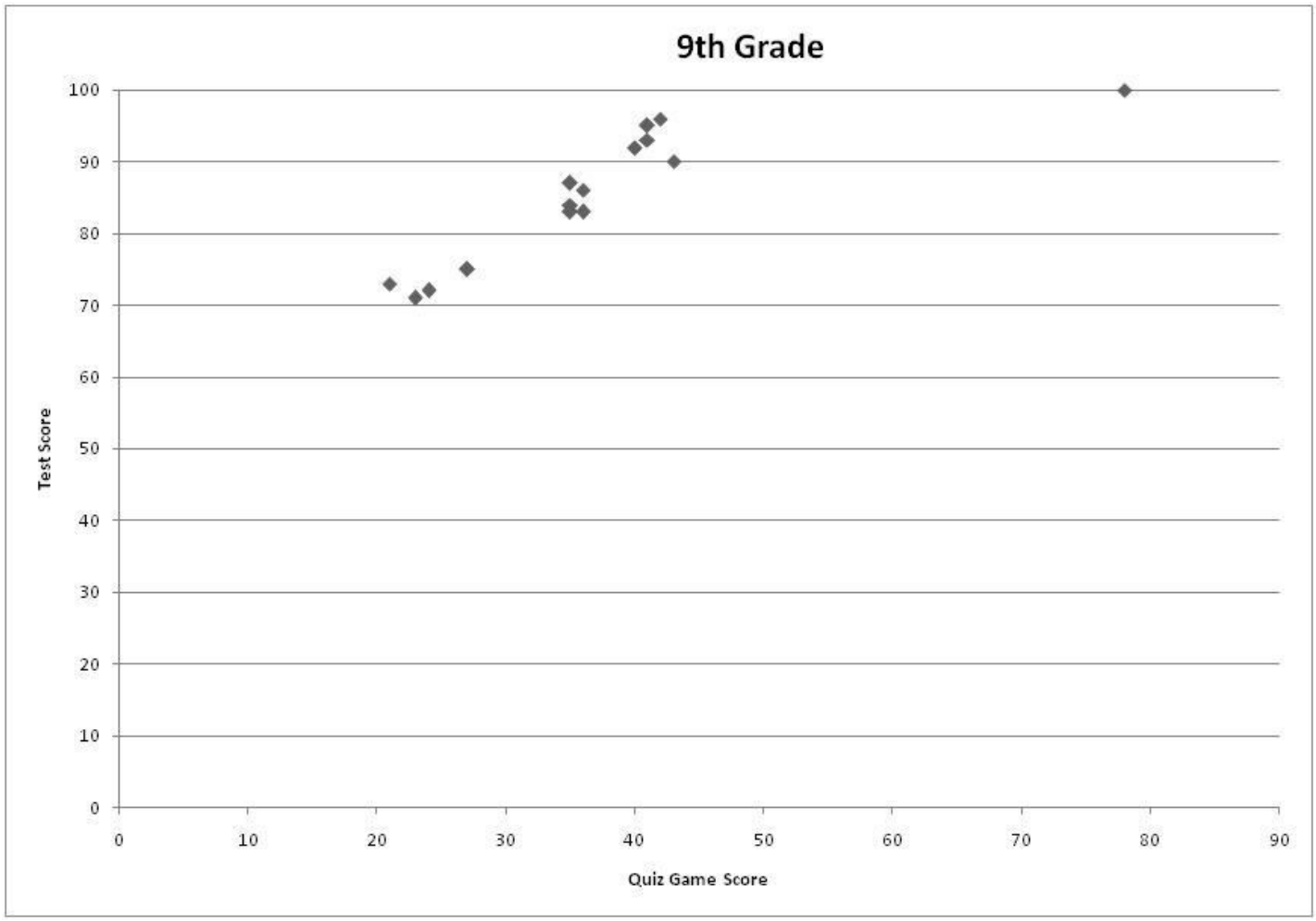
Assistment #24799

Assistment

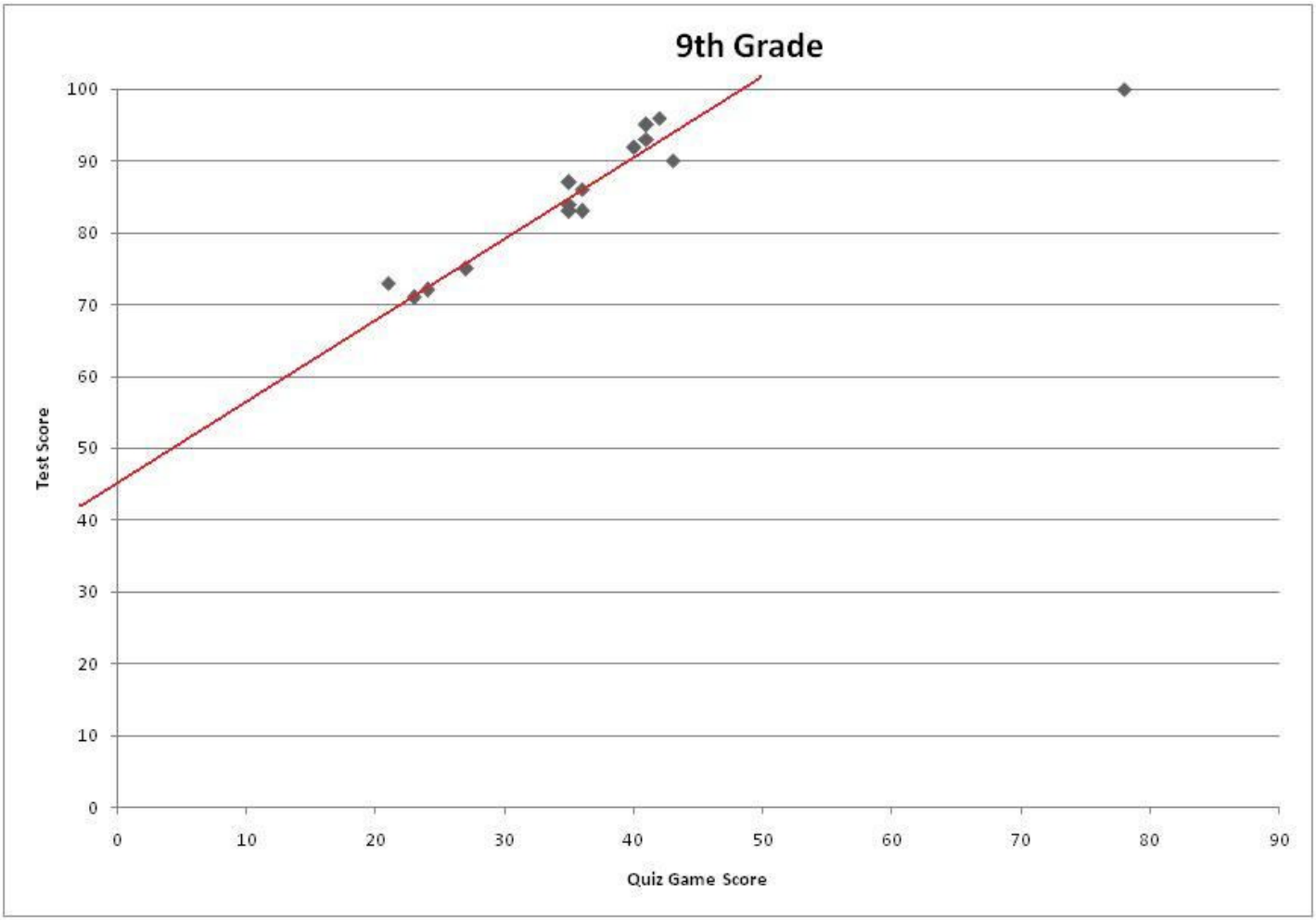
You are previewing content.

Now that we know that y = .8x + 45 is a good line to fit our data,

use the equation to predict the test score of a 9th grade student who got a 37 on the quiz game.

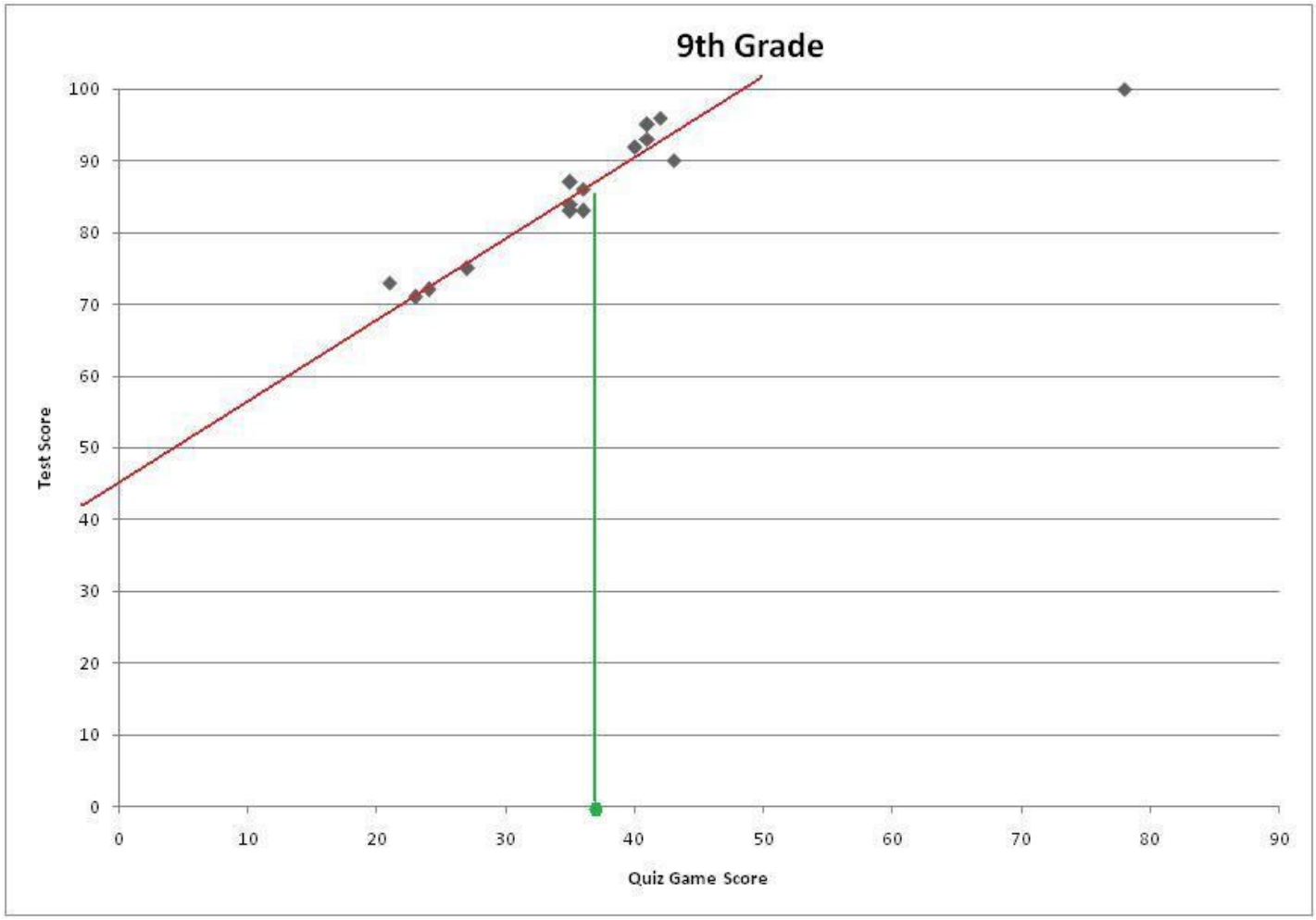


Comment on this question



Each point on this graph shows what score a student got on the test and what he got on the quiz game score. In order to predict what someone will get on the test plot the point in which the student got on the quiz game show and place it on the trend line.

Comment on this hint



This is where a score of 37 on the quiz game show would match up on the trend line.

Comment on this hint

Now trace where the point on the trend line is back to where it matches on the test score axis.

Comment on this hint

A score of 37 on the quiz game corresponds to a score of 85 on the test, please select b. 85

Comment on this hint

Select one:

- 75
- 85
- 95
- 100

Submit Answer

Correct!

You are done with this problem!

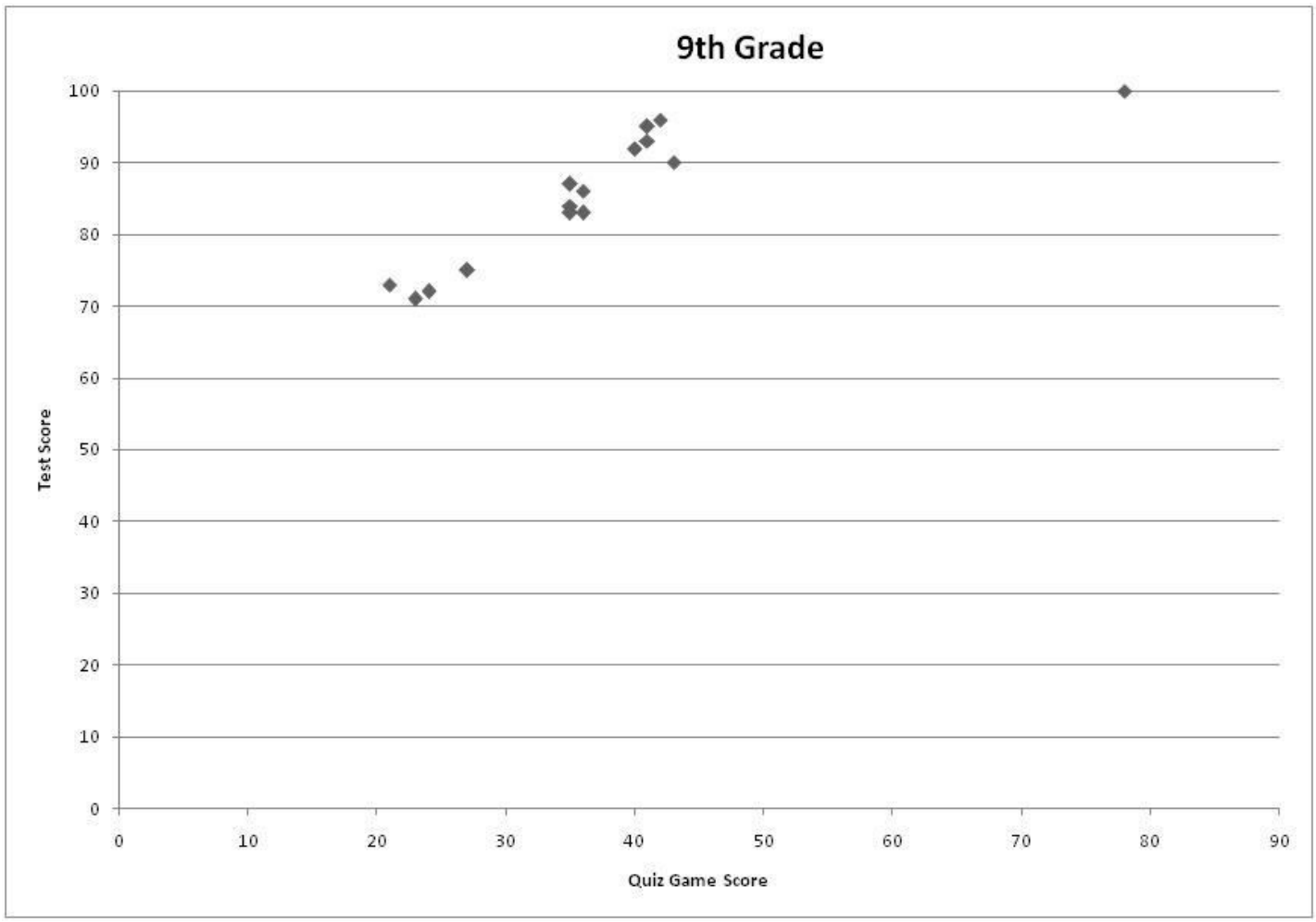
Comment on this problem

Assistment #24800

Assistment

You are previewing content.

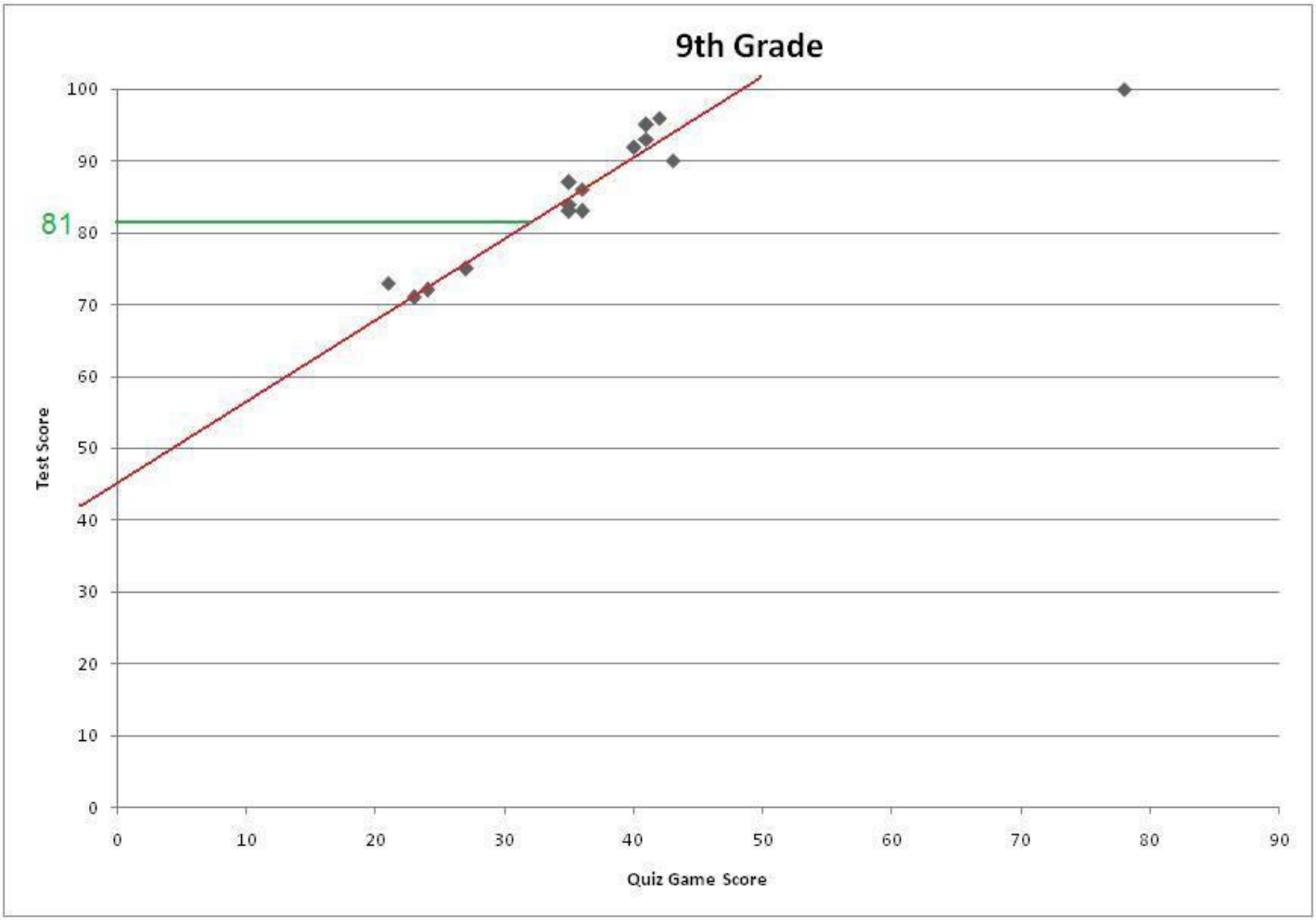
Now that we know that y = .8x + 45 is a good line to fit our data, use it to predict the game score for a 9th grade student who got an 81 on the test.



Comment on this question

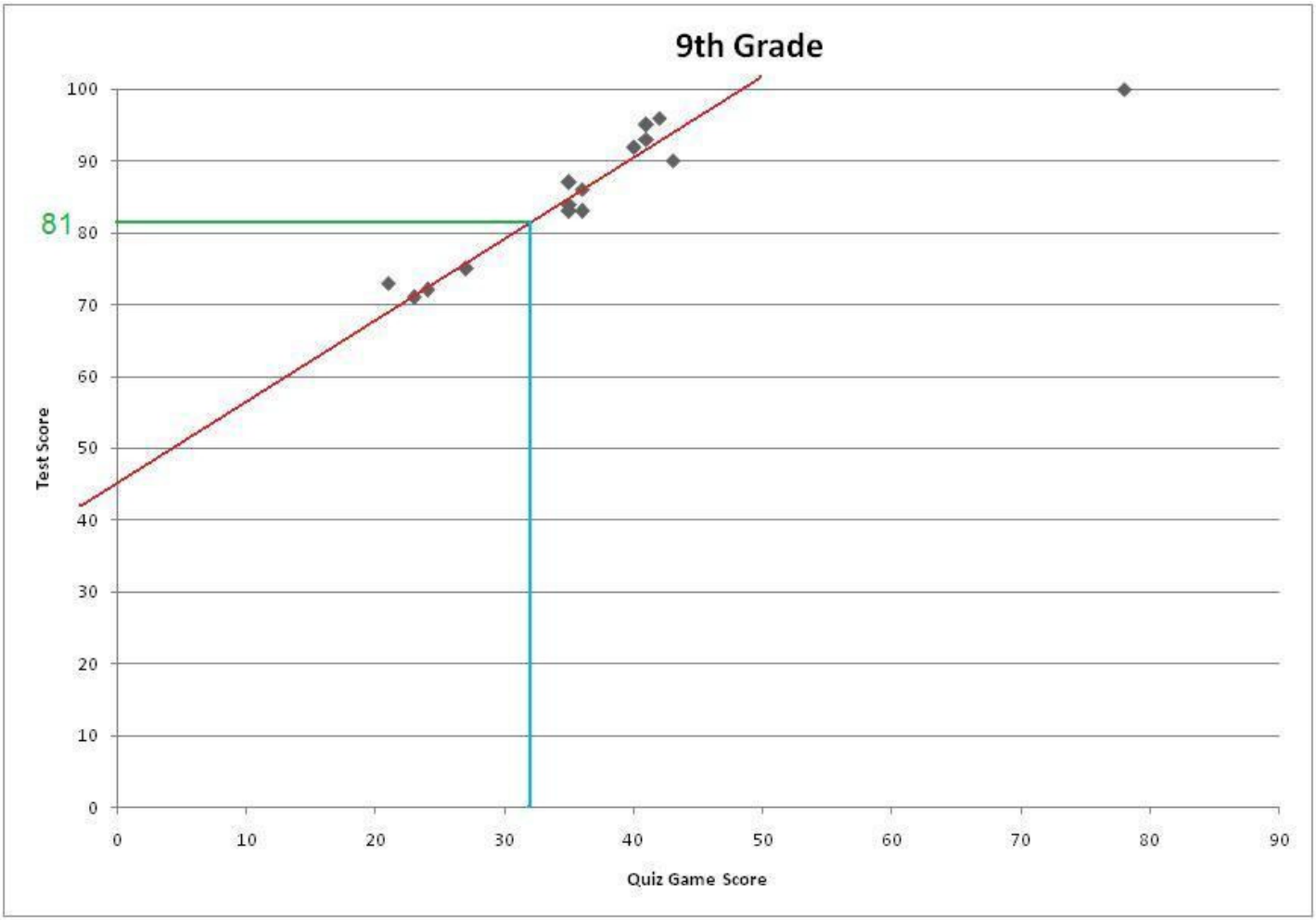
In order to find what score a student probably got on the quiz game show by knowing his test score and the trend line through the scatter plot of quiz game score vs. test score. We should plot test score and see where that point lies on the trend line.

Comment on this hint



Now see where it corresponds to the quiz game show scores

Comment on this hint



The point on the trend line traces down to about 32.

Comment on this hint

The answer is 32 Please select 32

Comment on this hint

Select one:

- 35
- 25
- 30
- 37
- 32

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25350

Assistment

You are previewing content.

Find the sum.

7.1 + - 1.4

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

Now lets look at the solution for a problem **similar** to the one in the red box above.

Problem:

Find the sum

5.3 + - 3.5

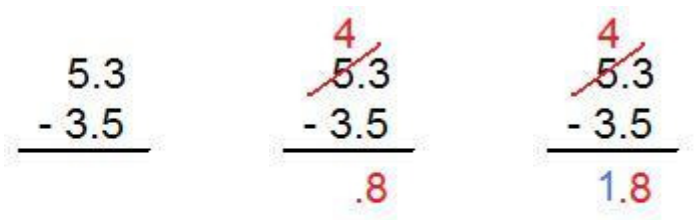
Solution:

To start off this problem we should first simplify it so we only have one operation. Adding a negative is the same as just subtracting so we should change the problem to look like this

5.3 + - 3.5

5.3 - 3.5

Now that we have a regular subtraction problem we just have to evaluate it:



We started with the rightmost term and had to borrow from 5. 13 - 5 = 8 and 4 - 3 = 1, so our answer was 1.8.

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem:

Find the sum.

7.1 + - 1.4

Do your best, if you cannot solve this problem select hint in order to move to the next problem.

Comment on this question

The answer is 5.7

Comment on this hint

Type your answer below:

- 5.7

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25355

Assistment

You are previewing content.

Find the Sum.

-5 + 7

Comment on this question

Request Help

Type your answer below:

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

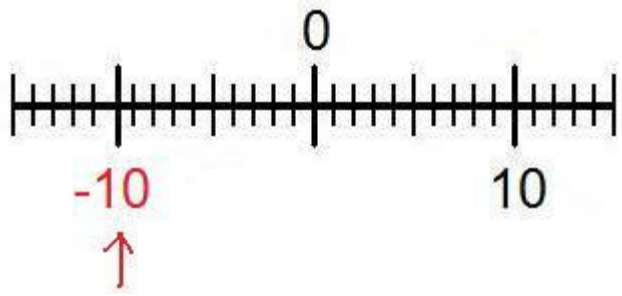
Problem:

Find the Sum

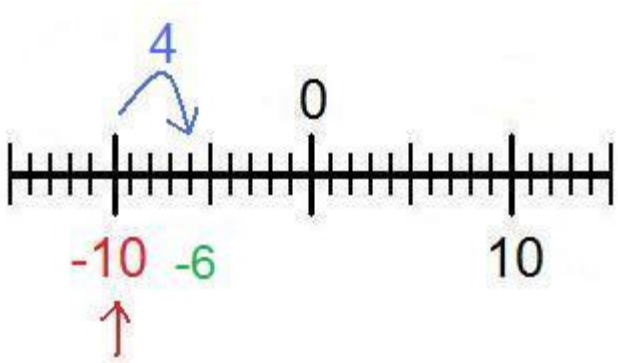
-10 + 4

Solution:

We should start by creating a numberline to help visualize the problem.



To use the numberline start at -10 and move 4 spaces in the positive direction (to the right).



This gives us -6.

You could also use the rule for adding integers. That is if the numbers have different signs you first subtract and apply the sign of the number who has the greatest absolute value.

(10 - 4 = 6)

10 > 4

-6

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

Find the Sum.

-5 + 7

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is 2

Comment on this hint

Type your answer below:

- 2

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25356

Assistment

You are previewing content.

Find the sum.

-4/6 + 3/6

Comment on this question

Request Help

Type your answer below (mathematical expression):

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Find the sum.

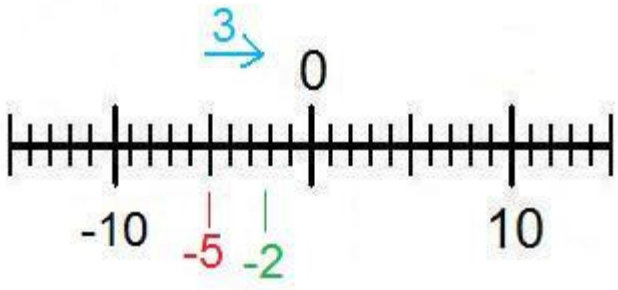
-5/8 + 3/8

Solution:

When adding or subtracting fractions you must first make sure that the denominators (bottom of the fraction) are equal. In this case they are both 8.

$$\frac{-5}{8} + \frac{3}{8}$$

Now we just have to evaluate the numerators (top of the fraction) like you would normal integers. Here is a numberline to help visualize the problem.



-5 + 3 = -2

Now we put the denominator back and we get the answer of -2/8

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

Find the sum.

-4/6 + 3/6

Do your best, if you cannot find the solution to this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is -1/6

Comment on this hint

Type your answer below (mathematical expression):

- -1/6

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25358

Assistment

You are previewing content.

Find the difference.

-1 - (-7)

Comment on this question

Request Help

Type your answer below:

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Find the difference

- 4 - (-5)

Solution:

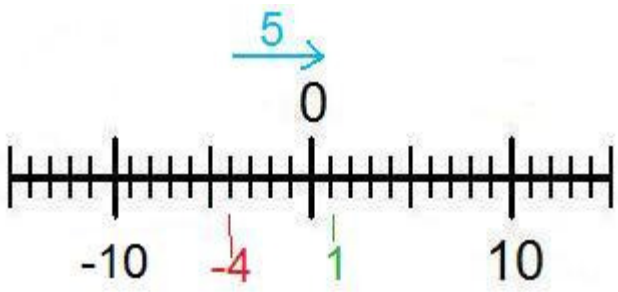
To make this problem easier you should first simplify the signs.

Subtracting a negative number is the same thing as adding a positive number

-4 - (-5)

-4 + 5

Now we can use a numberline to help solve the problem



start at -4, move 5 places to the right (the positive direction) and end at 1, therefore the answer is 1.

You could also use the rule for adding integers, that is if two integers have different signs, subtract them and add the sign of the number with the highest absolute value (furthest from 0)

5 - 4 = 1

5 > 4

1

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

Find the difference -1 - (-7)

Do your best, if you cannot find the solution select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is 6

Comment on this hint

Type your answer below:

- 6

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25360

Assistment

You are previewing content.

Find the difference.

-0.1 - 0.5

Comment on this question

Request Help

Type your answer below (mathematical expression):

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

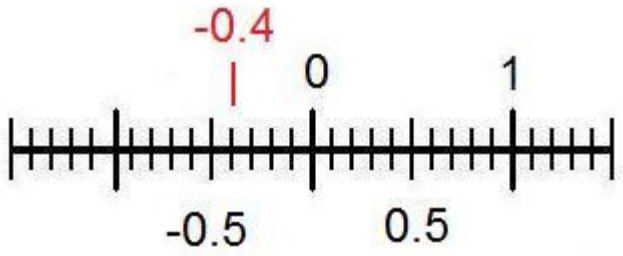
Problem:

Find the difference

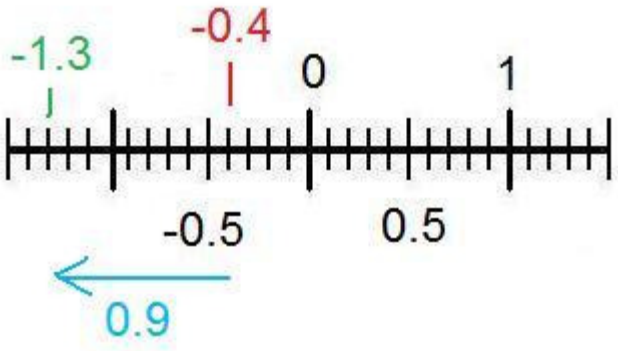
-0.4 - 0.9

Solution:

To help visualize this problem we should create a numberline



Since we are subtracting we move 0.9 spaces in the negative direction (left).



The answer is -1.3

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem.

Find the difference.

- 0.1 - 0.5

Do your best, if you cannot solve this problem select hint in order to get the answer and move on to the next question.

Comment on this question

The answer is -.6

Comment on this hint

Type your answer below (mathematical expression):

- -.6

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25359

Assistment

You are previewing content.

Find the difference.

10 - (-20)

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Find the difference.

1 -(-3)

Solution:

To solve this problem just remember that subtracting a negative number is the same as adding a positive number

1 - (-3)

1 + 3

Now just evaluate 1 + 3

1 + 3 = 4

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Back to the original problem

Find the difference

10 - (-20)

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is 30

Comment on this hint

Type your answer below:

- 30

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25361

Assistment

You are previewing content.

In this problem you don't have to give the numeric answer. Just tell whether the answer is negative or positive.

-0.00002 - 200000

Comment on this question

Request Help

Select one:

- - negative
- + positive

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above.

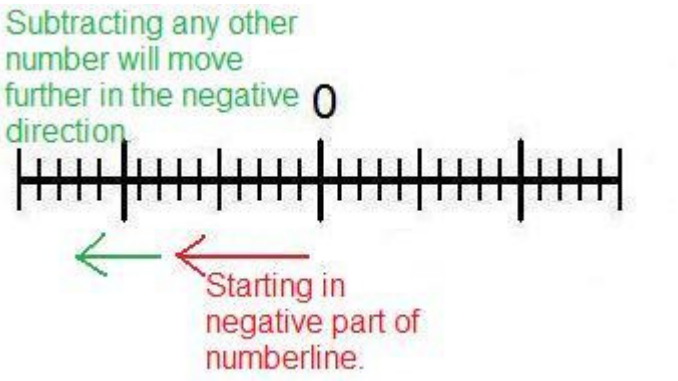
Problem:

In this problem you do not have to give the numeric answer, just tell whether the answer will be negative or positive.

-0.333 - 2000

Solution:

No matter what the numbers are, whenever you subtract a number from a negative number your answer will **always be negative**.



The answer is Negative

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

You do not have to give a numerical answer, just tell whether the answer will be positive or negative.

-0.00002 - 200000

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is negative

Comment on this hint

Select one:

- - negative
- + positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25362

Assistment

You are previewing content.

In this problem you do not have to give the numerical answer, just tell whether the answer will be positive or negative.

1 - (-4)

Comment on this question

Request Help

Select one:

- - negative
- + positive

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

For this question you do not need to give the numerical answer, just tell whether the answer will be positive or negative.

2.2 - (- 100)

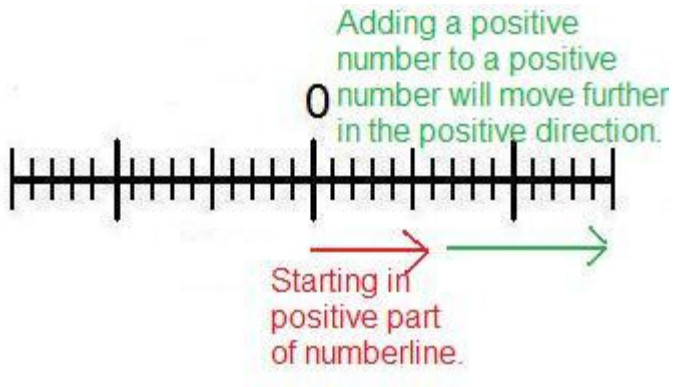
Solution:

Remember, subtracting a negative number is the same as adding a positive number.

2.2 - (-100)

2.2 + 100

Adding a positive number to a positive number will **always** yield a positive number.



The answer is positive.

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem.

For this problem you do not need to find the numerical answer, just tell whether the answer will be positive or negative.

1 - (-4)

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is positive

Comment on this hint

Select one:

- - negative
- + positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25363

Assistment

You are previewing content.

In this problem you do not need to find the numerical answer, just tell whether the answer will be negative or positive.

3.1 - 10.2

Comment on this question

Request Help

Select one:

- - negative
- + positive

Submit Answer

Let's move on and figure out this problem

Let's look at a problem similar to the question in the red box above.

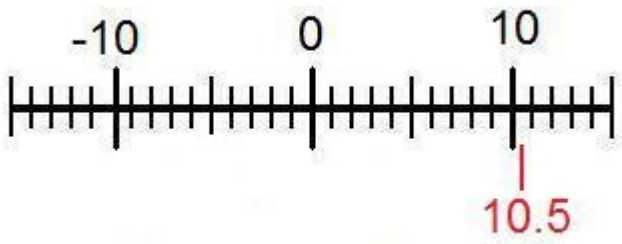
Problem:

In this problem you don't have to give the numerical answer, just tell whether the answer is positive or negative.

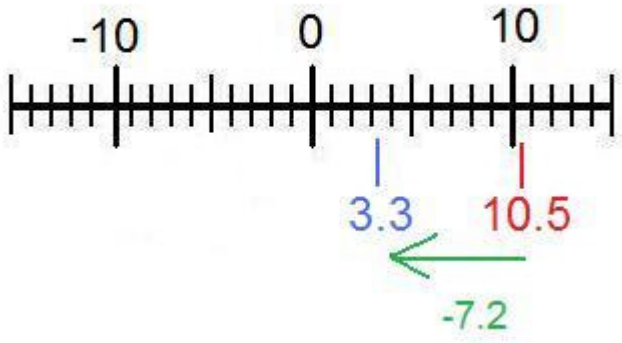
10.5 - 7.2

Solution:

For this problem you can use a numberline



Since we are subtracting 7.2, we move 7.2 units into the negative direction (left).



The answer is positive, because the number is still to the right of 0.

You can also use the rule for adding integers. That is that if the numbers have different signs subtract (10.5 - 7.2 = 3.3) and then add the sign of the number with the greatest absolute value (or farthest from zero). 10.5 > 7.2

3.3

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

For this problem you do not need to give a numerical answer, just tell whether the answer will be negative or positive.

3.1 - 10.2

Try your best, if you cannot solve the problem select hint to get the answer and move on.

Comment on this question

The answer is negative.

Comment on this hint

Select one:

- - negative
- + positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25570

Assistment

You are previewing content.

Find the sum

7.1 + - 1.4

Comment on this question

To start off this problem we should first simplify it so we only have one operation. Adding a negative is the same as just subtracting so we should change the problem to look like this

7.1 + - 1.4

7.1 - 1.4

Comment on this hint

Now that we have a regular subtraction problem we just have to evaluate it:

$$\begin{array}{r} 7.1 \\ -\ 1.4 \\ \hline \end{array}$$

Comment on this hint

$$\begin{array}{r} 6 \\ \cancel{7}.1 \\ -\ 1.4 \\ \hline .7 \end{array} \qquad \begin{array}{r} 6 \\ \cancel{7}.1 \\ -\ 1.4 \\ \hline 5.7 \end{array}$$

We started with the rightmost term and had to borrow from 7. 11 - 4 = 7 and 6 - 1 = 5.

Comment on this hint

The answer is 5.7, please type in 5.7

Comment on this hint

Type your answer below (mathematical expression):

- 5.7

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25572

Assistment

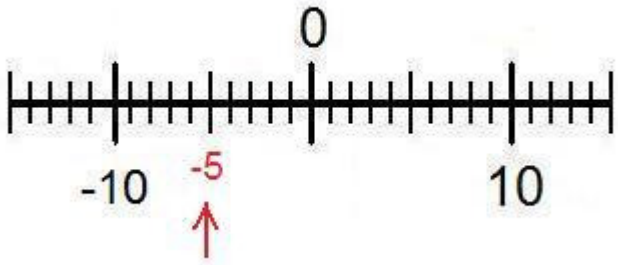
You are previewing content.

Find the Sum

-5 + 7

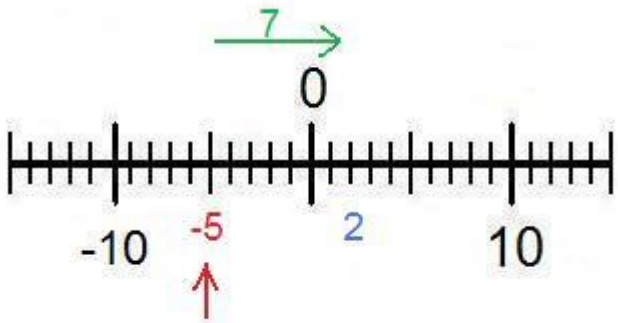
Comment on this question

We should start by creating a numberline to help visualize the problem.



Comment on this hint

To use the numberline start at -5 and move 7 spaces in the positive direction (to the right).



Comment on this hint

After we moved 7 spaces to the right we got 2 which is the answer. Please type in 2.

You could also use the rule for adding integers. That is if the numbers have different signs you first subtract and apply the sign of the number who has the greatest absolute value.

(5 - 7 = -2)

$7 > 5$

2

Comment on this hint

Type your answer below (mathematical expression):

- 2

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25573

Assistment

You are previewing content.

Find the sum.

-4/6 + 3/6

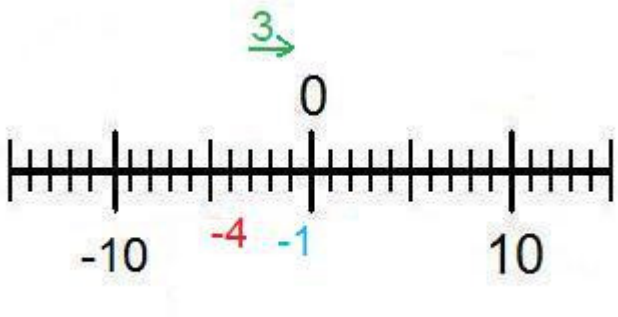
Comment on this question

When adding or subtracting fractions you must first make sure that the denominators (bottom of the fraction) are equal. In this case they are both 6.

$$\frac{-4}{6} + \frac{3}{6}$$

Comment on this hint

Now we just have to evaluate the numerators (top of the fraction) like you would normal integers. Here is a numberline to help visualize the problem.



Comment on this hint

-4 + 3 = -1

Now we put the denominator back and we get the answer of -1/6

Comment on this hint

Type your answer below (mathematical expression):

- -1/6

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment

Assistment #25575

You are previewing content.

Find the difference

- 1 - (-7)

Comment on this question

To make this problem easier you should first simplify the signs.

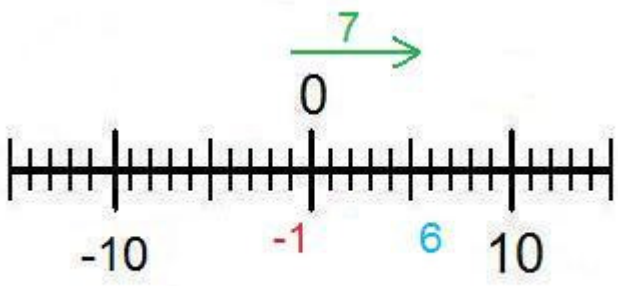
Subtracting a negative number is the same thing as adding a positive number

-1 - (-7)

-1 + 7

Comment on this hint

Now we can use a numberline to help solve the problem



Comment on this hint

Start at -1, move 7 places to the right (the positive direction) and end at 6, therefore the answer is 6.

Comment on this hint

Type your answer below (mathematical expression):

- 6

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25577

Assistment

You are previewing content.

Find the difference.

10 -(-20)

Comment on this question

To solve this problem just remember that subtracting a negative number is the same as adding a positive number

10 - (-20)

10 + 20

Comment on this hint

Now just evaluate 10 + 20

10 + 20 = ?

Comment on this hint

The answer is 30, please type in 30.

Comment on this hint

Type your answer below:

- 30

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25578

Assistment

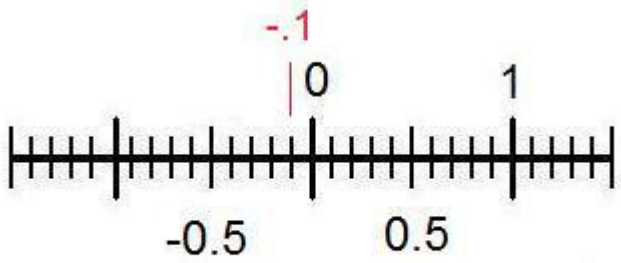
You are previewing content.

Find the difference

-0.1 - 0.5

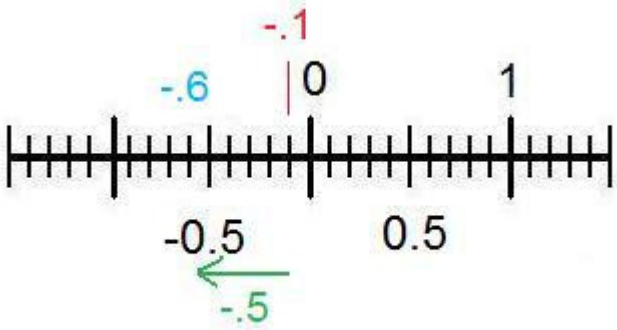
Comment on this question

To help visualize this problem we should create a numberline



Comment on this hint

Since we are subtracting we move 0.9 spaces in the negative direction (left).



Comment on this hint

The answer is -.6

Comment on this hint

Type your answer below (mathematical expression):

- -.6

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25579

Assistment

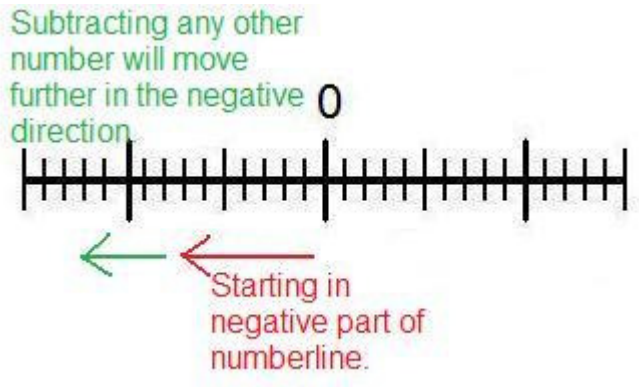
You are previewing content.

In this problem you do not have to give the numeric answer, just tell whether the answer will be negative or positive.

-0.00002 - 200000

Comment on this question

No matter what the numbers are, whenever you subtract a number from a negative number your answer will **always be negative**.



Comment on this hint

The answer is negative, please select - negative.

Comment on this hint

Select one:

- - Negative
- + Positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25581

Assistment

You are previewing content.

In this problem you do not have to give the numerical answer, just tell whether the answer will be positive or negative.

1 - (- 4)

Comment on this question

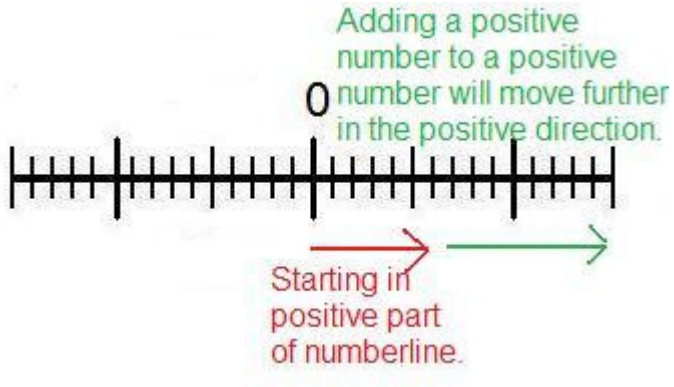
Remember, subtracting a negative number is the same as adding a positive number.

1 - (-4)

1 + 4

Comment on this hint

Adding a positive number to a positive number will **always** yield a positive number.



Comment on this hint

The answer is positive. Please select + Positive.

Comment on this hint

Select one:

- - Negative
- + Positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25582

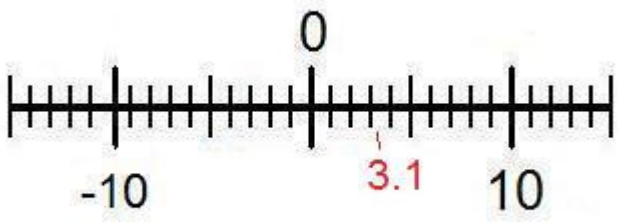
Assistment

You are previewing content.

In this problem you don't have to give the numerical answer, just tell whether the answer is positive or negative.

3.1 - 10.2

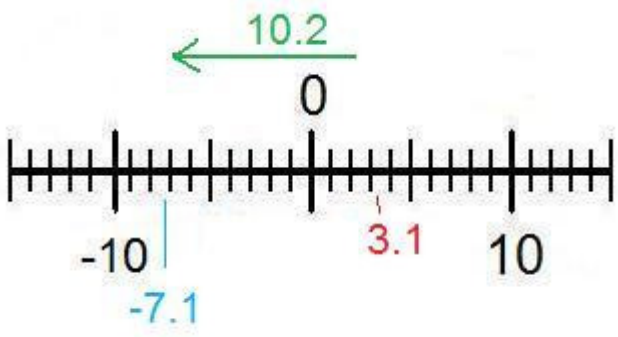
Comment on this question



For this problem you can use a numberline

Comment on this hint

Since we are subtracting 10.2, we move 10.2 units into the negative direction (left).



Comment on this hint

The answer is negative, please select + negative.

You can also use the rule for adding integers. That is that if the numbers have different signs subtract (3.1 - 10.2 = -7.1) and then add the sign of the number with the greatest absolute value (or farthest from zero). 10.2 > 3.1

-7.1

Comment on this hint

Select one:

- ◉ - Negative
- ○ + Positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25583

Assistment

You are previewing content.

Find the sum

3.7 + -1.5

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Now lets look at the solution for a problem **similar** to the one in the red box above.

Problem:

Find the sum

5.3 + - 3.5

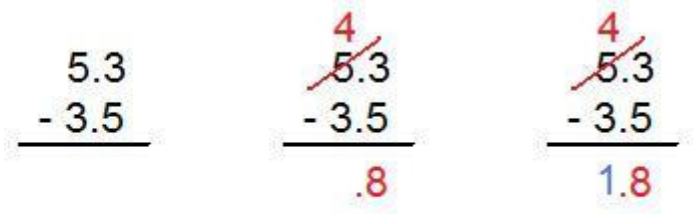
Solution:

To start off this problem we should first simplify it so we only have one operation. Adding a negative is the same as just subtracting so we should change the problem to look like this

5.3 + - 3.5

5.3 - 3.5

Now that we have a regular subtraction problem we just have to evaluate it:



We started with the rightmost term and had to borrow from 5. 13 - 5 = 8 and 4 - 3 = 1, so our answer was 1.8.

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem:

Find the sum.

3.7 + - 1.5

Do your best, if you cannot solve this problem select hint in order to move to the next problem.

Comment on this question

The answer is 2.2, please type in 2.2

Comment on this hint

Type your answer below (mathematical expression):

- 2.2

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25584

Assistment

You are previewing content.

Find the Sum.
-12 + 7

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

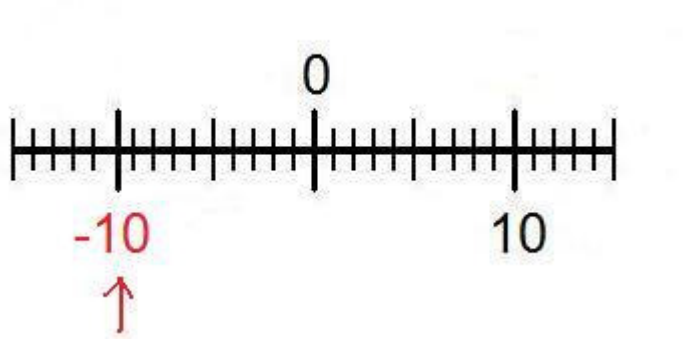
Problem:

Find the Sum

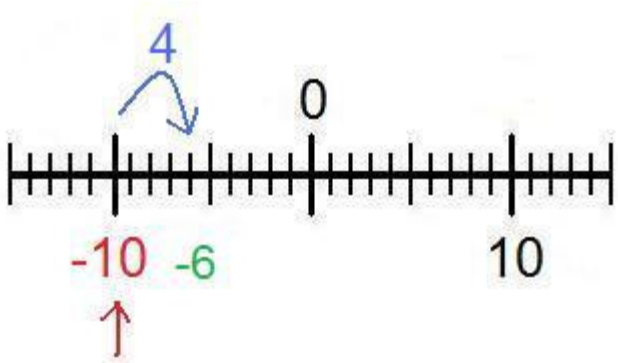
-10 + 4

Solution:

We should start by creating a numberline to help visualize the problem.



To use the numberline start at -10 and move 4 spaces in the positive direction (to the right).



This gives us -6.

You could also use the rule for adding integers. That is if the numbers have different signs you first subtract and apply the sign of the number who has the greatest absolute value.

(10 - 4 = 6)

10 > 4

-6

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

Find the Sum.

-12 + 7

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is -5, please type in -5.

Comment on this hint

Type your answer below:

- -5

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25586

Assistment

You are previewing content.
In this problem you don't have to give the numeric answer.
Just tell whether the answer is positive or negative.

-21.5 - 17

Comment on this question

Request Help

Select one:

- - Negative
- + Positive

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above.

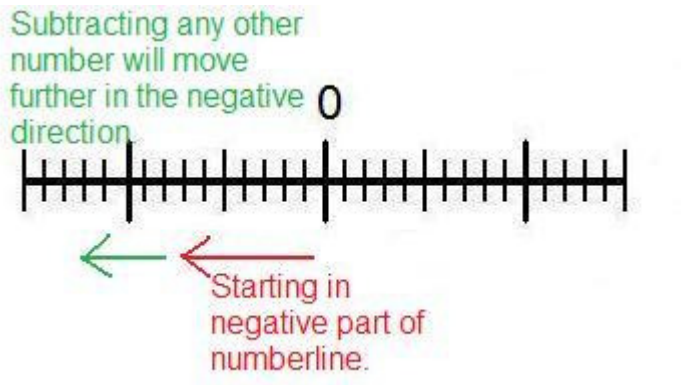
Problem:

In this problem you do not have to give the numeric answer, just tell whether the answer will be negative or positive.

-0.333 - 2000

Solution:

No matter what the numbers are, whenever you subtract a number from a negative number your answer will **always be negative**.



The answer is Negative

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

You do not have to give a numerical answer, just tell whether the answer will be positive or negative.

-21.5 - 17

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is negative, please select - Negative.

Comment on this hint

Select one:

- - Negative
- + Positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25587

Assistment

You are previewing content.

For this question you do not need to give the numerical answer, just tell whether the answer will be positive or negative.

4.2 - (-7.5)

Comment on this question

Request Help

Select one:

- - Negative
- + Positive

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

For this question you do not need to give the numerical answer, just tell whether the answer will be positive or negative.

2.2 - (- 100)

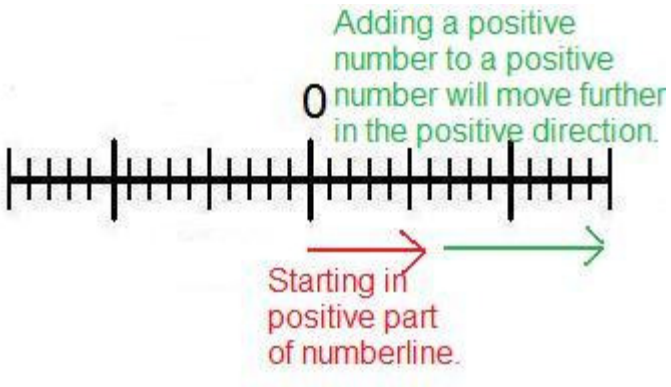
Solution:

Remember, subtracting a negative number is the same as adding a positive number.

2.2 - (-100)

2.2 + 100

Adding a positive number to a positive number will **always** yield a positive number.



The answer is positive.

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem.

For this problem you do not need to find the numerical answer, just tell whether the answer will be positive or negative.

4.2 - (-7.5)

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is Positive, please select + Positive.

Comment on this hint

Select one:

- - Negative
- + Positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25657

Assistment

You are previewing content.

In this problem you don't have to give the numerical answer, just tell whether the answer is positive or negative.

8.9 - 13.65

Comment on this question

Request Help

Select one:

- - Negative
- + Positive

Submit Answer

Let's move on and figure out this problem
Let's look at a problem **similar** to the question in the red box above.

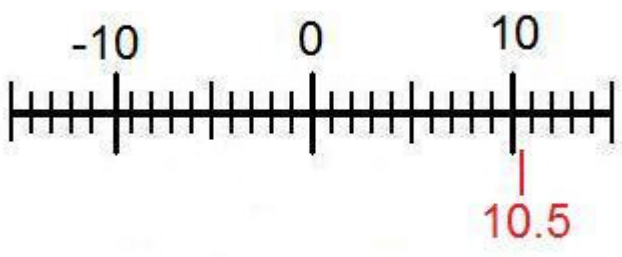
Problem:

In this problem you don't have to give the numerical answer, just tell whether the answer is positive or negative.

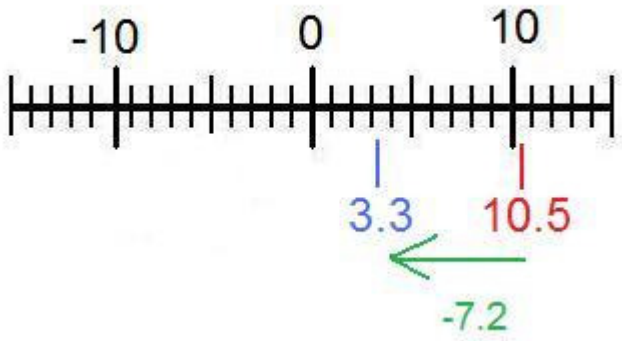
10.5 - 7.2

Solution:

For this problem you can use a numberline



Since we are subtracting 7.2, we move 7.2 units into the negative direction (left).



The answer is positive, because the number is still to the right of 0.

You can also use the rule for adding integers. That is that if the numbers have different signs subtract (10.5 - 7.2 = 3.3) and then add the sign of the number with the greatest absolute value (or farthest from zero). 10.5 > 7.2

3.3

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

For this problem you do not need to give a numerical answer, just tell whether the answer will be negative or positive.

8.9 - 13.65

Try your best, if you cannot solve the problem select hint to get the answer and move on.

Comment on this question

The answer is - Negative.

Comment on this hint

Select one:

- - Negative
- + Positive

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25660

Assistment

You are previewing content.

Find the sum.

-3/4 + 1/4

Comment on this question

Request Help

Type your answer below (mathematical expression):

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Find the sum.

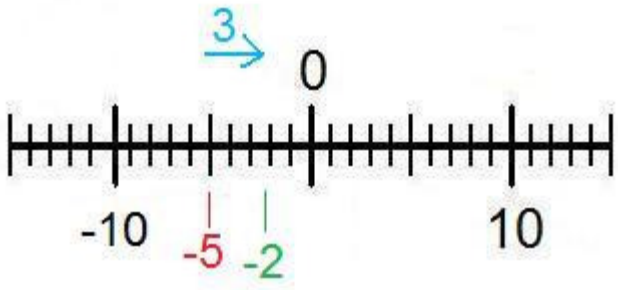
-5/8 + 3/8

Solution:

When adding or subtracting fractions you must first make sure that the denominators (bottom of the fraction) are equal. In this case they are both 8.

$$\frac{-5}{8} + \frac{3}{8}$$

Now we just have to evaluate the numerators (top of the fraction) like you would normal integers. Here is a numberline to help visualize the problem.



-5 + 3 = -2

Now we put the denominator back and we get the answer of -2/8

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

Find the sum.

-3/4 + 1/4

Do your best, if you cannot find the solution to this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is -2/4 please type in -2/4.

Comment on this hint

Type your answer below (mathematical expression):

- -2/4

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25661

Assistment

You are previewing content.

Find the difference

-20 - (-60)

Comment on this question

Request Help

Type your answer below (mathematical expression):

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Find the difference

- 4 - (-5)

Solution:

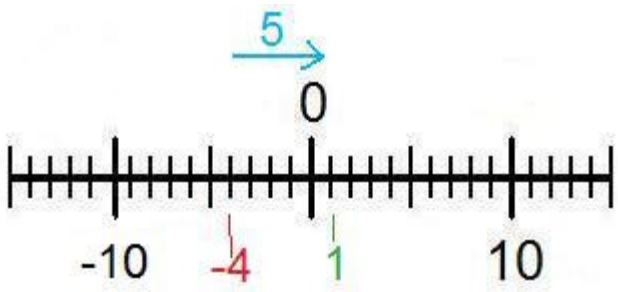
To make this problem easier you should first simplify the signs.

Subtracting a negative number is the same thing as adding a positive number

-4 - (-5)

-4 + 5

Now we can use a numberline to help solve the problem



Start at -4, move 5 places to the right (the positive direction) and end at 1, therefore the answer is 1.

You could also use the rule for adding integers, that is if two integers have different signs, subtract them and add the sign of the number with the highest absolute value (furthest from 0)

5 - 4 = 1

5 > 4

1

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

Find the difference -20 - (-60)

Do your best, if you cannot find the solution select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is 40, please type in 40

Comment on this hint

Type your answer below (mathematical expression):

- 40

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25662

Assistment

You are previewing content.

Find the difference.

16 - (-5)

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Find the difference.

1 -(-3)

Solution:

To solve this problem just remember that subtracting a negative number is the same as adding a positive number

1 - (-3)

1 + 3

Now just evaluate 1 + 3

1 + 3 = 4

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Back to the original problem

Find the difference

16 - (-5)

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

16 -(-5) = 21. Type in 21

Comment on this hint

Type your answer below (mathematical expression):

- 21

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25663

Assistment

You are previewing content.

Find the difference

-0.6 - 0.3

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

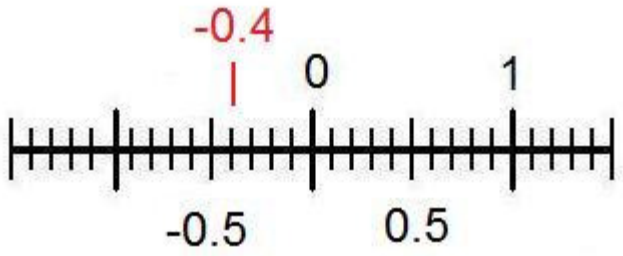
Problem:

Find the difference

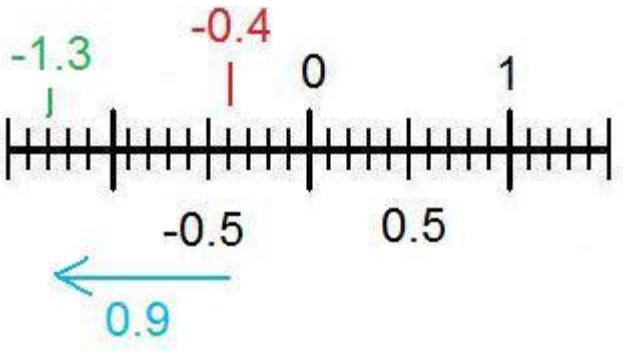
-0.4 - 0.9

Solution:

To help visualize this problem we should create a numberline



Since we are subtracting we move 0.9 spaces in the negative direction (left).



The answer is -1.3

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem.

Find the difference.

-0.6 - 0.3

Do your best, if you cannot solve this problem select hint in order to get the answer and move on to the next question.

Comment on this question

The answer is -.9, please type in -.9

Comment on this hint

Type your answer below (mathematical expression):

- -.9

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25666

Assistment

You are previewing content.
Evaluate the expression please
4 + 2 * (-9) - (-8)

Comment on this question

Using the order of operations (parenthesis, exponents, division and multiplication from left to right, addition and subtraction from left to right), the first step in this question would be to do

4 + 2 x (-9) - (-8)

because there are no exponents and the parenthesis are only to help distinguish the signs.

Comment on this hint

Now that we have gone through the first 4 operations in the order of operations (parenthesis, exponents, multiplication, and division) the only operations left are addition and subtraction from left to right. On your paper you should already have.

4 + 2 x (-9) - (-8)

4 + (-18) - (-8)

Comment on this hint

In order to make it easier you can change everything to addition. Remember two negatives equals a positive.

4 + 2 x (-9) - (-8)

4 + (-18) - (-8)

4 + (-18) + 8

Comment on this hint

Now evaluate from left to right.

4 + 2 x (-9) - (-8)

4 + (-18) - (-8)

4 + (-18) + 8

-14 + 8

Comment on this hint

4 + 2 x (-9) - (-8)

4 + (-18) - (-8)

4 + (-18) + 8

-14 + 8

-6

Comment on this hint

Type your answer below (mathematical expression):

- -6

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25668

Assistment

You are previewing content.
Evaluate the expression
1 x (10 + (-5)) - 8

Comment on this question

To solve the expression, we must obey the order of operations(parenthesis, exponents, multiplication and division from left to right, addition and subtractionfrom left to right). We first look at the expression in the inner-most parentheses.

1x(10+(-5))-8

Comment on this hint

1x(10+(-5)) -8

1x(5) -8

Comment on this hint

The next step is multiplication from left to right.

1x(10+(-5)) -8

1x(5) -8

5 - 8

Comment on this hint

The last step is to evaluate addition and subtraction from left to right

1x(10+(-5)) -8

1x(5) -8

5 - 8

-3

Comment on this hint

The answer is -3, please type in -3

Comment on this hint

Type your answer below (mathematical expression):

- -3

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment

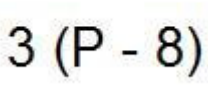
Assistment #25670

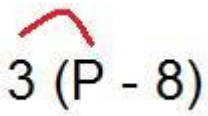
You are previewing content.
Find the product
3(p - 8)

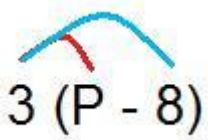
Comment on this question

You must use the distributive property to find the answer.

Comment on this hint







Comment on this hint

3xP = 3P

3x(-8) = -24

Comment on this hint

Now combine the two parts

3(P-8) = 3P - 24

Comment on this hint

The answer is 3P - 24

Comment on this hint

Select one:

- 24P - 8

- 3P - 24
- 24P - 24
- 3P - 8

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment

Assistment #25672

You are previewing content.
Evaluate the expression please
4 + 2 * (-9) - (-8)

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Now lets look at the solution for a problem **similar** to the one in the red box above.

Problem:

Evaluate the expression please
1 + 7 * (-3) - (-12)

Solution:

Using the order of operations (parenthesis, exponents, division and multiplication from left to right, addition and subtraction from left to right), the first step in this question would be to do

1 + 7 x (-3) - (-12)

because there are no exponents and the parenthesis are only to help distinguish the signs.

Now that we have gone through the first 4 operations in the order of operations (parenthesis, exponents, multiplication, and division) the only operations left are addition and subtraction from left to right. On your paper you should already have.

1 + 7 x (-3) - (-12)

1 + (-21) - (-12)

In order to make it easier you can change everything to addition. Remember two negatives equals a positive.

1 + 7 x (-3) - (-12)

1 + (-21) - (-12)

1 + (-21) + 12

Now evaluate from left to right.

1 + 7 x (-3) - (-12)

1 + (-21) - (-12)

1 + (-21) + 12

-20 + 12

One last addition

1 + 7 x (-3) - (-12)

1 + (-21) - (-12)

1 + (-21) + 12

-20 + 12

-8

The answer is -8

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem:

Evaluate the expression please
4 + 2 * (-9) - (-8)

Do your best, if you cannot solve this problem select hint in order to move to the next problem.

Comment on this question

The answer is -6.

Comment on this hint

Type your answer below (mathematical expression):

- -6

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25673

Assistment

You are previewing content.
Evaluate the expression
1 x (10 + (-5)) - 8

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Now lets look at the solution for a problem **similar** to the one in the red box above.

Problem:

Evaluate the expression
3 x (8 + (-6)) - 1

Solution:

To solve the expression, we must obey the order of operations(parenthesis, exponents, multiplication and division from left to right, addition and subtractionfrom left to right). We first look at the expression in the inner-most parentheses.

3x(8+(-6)) -1

3x(2) -1

The next step is multiplication from left to right.

3x(8+(-6)) -1

3x(2) -1

6 - 1

The last step is to evaluate addition and subtraction from left to right

3x(8+(-6)) -1

3x(2) -1

6 - 1

5

The answer is 5

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem:

Evaluate the expression
1 x (10 + (-5)) - 8

Do your best, if you cannot solve this problem select hint in order to move to the next problem.

Comment on this question

The answer is -3

Comment on this hint

Type your answer below (mathematical expression):

- -3

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25674

Assistment

You are previewing content.

Find the product
3(p - 8)

Comment on this question

Request Help

Select one:

- 24P - 8
- 3P - 24
- 3P - 8
- 24P - 24

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

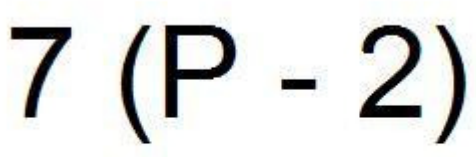
Problem:

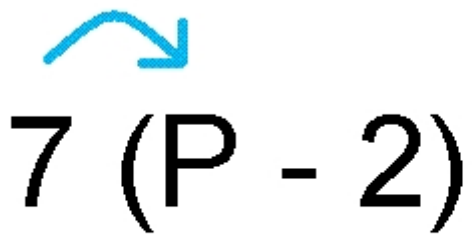
Find the product

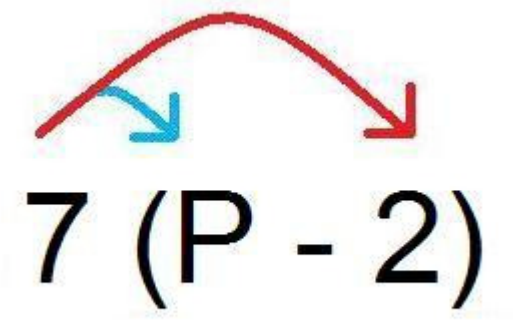
7(P-2)

Solution:

To solve this problem we will use the ditributive property







7*P = 7P

7*-2 = -14

Now put it together and we get the answer. 7P - 14

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Back to the original problem

Find the Product.

3(P-8)

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is 3P - 24.

Comment on this hint

Select one:

- 24P - 24
- 3P - 24
- 3P - 8
- 24P - 8

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25720

Assistment

You are previewing content.
Evaluate the expression please
4 + 2 * (-5) - (-9)

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Now lets look at the solution for a problem **similar** to the one in the red box above.

Problem:

Evaluate the expression please
1 + 7 * (-3) - (-12)

Solution:

Using the order of operations (parenthesis, exponents, division and multiplication from left to right, addition and subtraction from left to right), the first step in this question would be to do

1 + 7 x (-3) - (-12)

because there are no exponents and the parenthesis are only to help distinguish the signs.

Now that we have gone through the first 4 operations in the order of operations (parenthesis, exponents, multiplication, and division) the only operations left are addition and subtraction from left to right. On your paper you should already have.

1 + 7 x (-3) - (-12)

1 + (-21) - (-12)

In order to make it easier you can change everything to addition. Remember two negatives equals a positive.

1 + 7 x (-3) - (-12)

1 + (-21) - (-12)

1 + (-21) + 12

Now evaluate from left to right.

1 + 7 x (-3) - (-12)

1 + (-21) - (-12)

1 + (-21) + 12

-20 + 12

One last addition

1 + 7 x (-3) - (-12)

1 + (-21) - (-12)

1 + (-21) + 12

-20 + 12

-8

The answer is -8

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem:

Evaluate the expression please
4 + 2 * (-5) - (-9)

Do your best, if you cannot solve this problem select hint in order to move to the next problem.

Comment on this question

The answer is 3.

Comment on this hint

Type your answer below (mathematical expression):

- 3

Submit Answer
No, try again
Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #25721

You are previewing content.
Evaluate the expression
5 x (7 + (-9)) - 3

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Now lets look at the solution for a problem **similar** to the one in the red box above.

Problem:

Evaluate the expression
3 x (8 + (-6)) - 1

Solution:

To solve the expression, we must obey the order of operations(parenthesis, exponents, multiplication and division from left to right, addition and subtractionfrom left to right). We first look at the expression in the inner-most parentheses.

3x(8+(-6)) -1

3x(2) -1

The next step is multiplication from left to right.

3x(8+(-6)) -1

3x(2) -1

6 - 1

The last step is to evaluate addition and subtraction from left to right

3x(8+(-6)) -1

3x(2) -1

6 - 1

5

The answer is 5

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem:

Evaluate the expression
5 x (7 + (-9)) - 3

Do your best, if you cannot solve this problem select hint in order to move to the next problem.

Comment on this question

The answer is -13

Comment on this hint

Type your answer below (mathematical expression):

- -13

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25722

Assistment

You are previewing content.
Find the product
3(p + 5)

Comment on this question

Request Help

Select one:

- 3P-5
- 3P+5
- 3P-15
- 3P+15

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

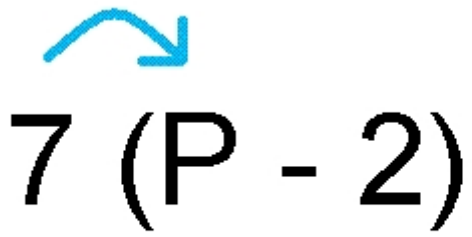
Problem:

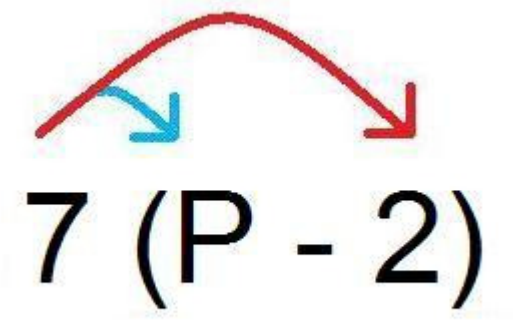
Find the product

7(P-2)

Solution:

To solve this problem we will use the ditributive property





7*P = 7P

7*-2 = -14

Now put it together and we get the answer. 7P - 14

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Back to the original problem

Find the Product.

3(P+5)

Do your best, if you cannot solve this problem select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is 3P+15

Comment on this hint

Select one:

- 3P-5
- 3P+5
- 3P-15
- 3P+15

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25890

Assistment

You are previewing content.
Which of these numbers has the smallest value?
-1/4, 1.5, -0.33, 7/4

Comment on this question

Request Help

Select one:

- A. -1/4
- B. 1.5
- C. -0.33
- D. 7/4

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Which of these numbers is the smallest value?

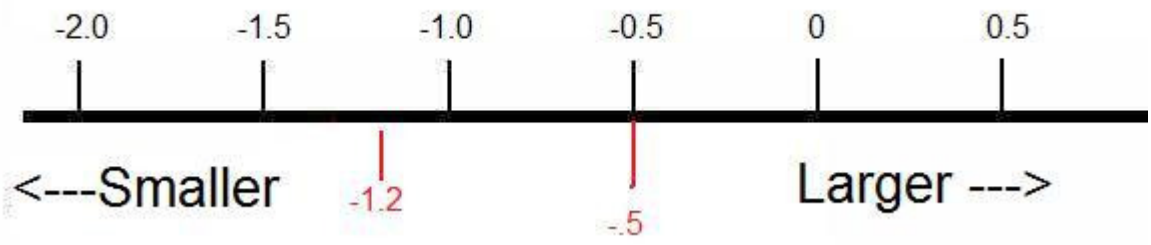
-1/2, .77, 1/3, -1.2

Solution:

Remember, negative numbers are always smaller than positive numbers,
so we can eliminate the positive numbers,
leaving us to determine which is smaller, -1/2 or -1.2

-1/2 = -.5

Now we place the numbers on the numberline.



Now we can clearly see that -1.2 is the smallest value

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

Which of these numbers has the smallest value?
-1/4, 1.5, -0.33, 7/4

Do your best, if you cannot find the solution select hint in order to get the answer and move onto the next problem.

Comment on this question

Request Help

Select one:

- A. -1/4
- B. 1.5
- C. -0.33
- D. 7/4

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25891

Assistment

You are previewing content.
Which symbol should go in the blank?
-5.2 ___ -5.02

Comment on this question

Request Help

Select one:

- A. <
- B. >
- C. =

Submit Answer

Let's move on and figure out this problem

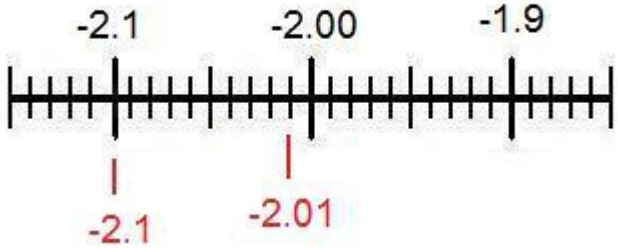
Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Which symbol should go in the blank?
-2.01 ___ -2.1

Solution:

To solve this problem we will place the numbers on a numberline.



As you go left numbers get smaller on the numberline.

Since -2.1 is to the left of -2.01 -2.1 is less than -2.01

-2.1 < -2.01

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem

Which symbol should go in the blank?

-5.2 ___ -5.02

Do your best, if you cannot find the solution select hint in order to get the answer and move onto the next problem.

Comment on this question

Request Help

Select one:

- A. <
- B. >
- C. =

Submit Answer

That is not correct, try again.

Correct!

You are done with this problem!

Comment on this problem

Assistment #25892

Assistment

You are previewing content.
Which symbol should go in the blank?
24.5 ___ -25

Comment on this question

Request Help

Select one:

- A. <
- B. >
- C. =

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Which symbol should go in the blank?
1 ___ -1.2

Solution:

Remember, negative numbers are always smaller than positive numbers.

1 is a positive number and -1.2 is a negative number.

Therefore 1 is greater than -1.2

1 > -1.2

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer

Correct!

Now back to the original problem.

Which symbol should go in the blank?
24.5 ___ -25

Do your best, if you cannot find the solution select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is B.>

Comment on this hint

Select one:

- A. <
- B. >
- C. =

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25893

Assistment

You are previewing content.
Which of these numbers has the largest value?

-1/4, 1.5, -0.33, or 7/4

Comment on this question

Request Help

Select one:

- A. -1/4
- B. 1.5
- C. -0.33
- D. 7/4

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Which of these numbers is the largest value?

-1/2, .77, 1/3, -1.2

Solution:

Remember, negative numbers are always smaller than positive numbers, therefore we can eliminate -1/2 and -1.2.

To make it easier to compute we should turn 1/3 into a decimal so it can be compared with .77 easily.

1/3 = .33

.77 is greater than .33

therefore .77 > .33

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer
Correct!

Now back to the original problem

Which of these numbers has the largest value?
-1/4, 1.5, -0.33, 7/4

Do your best, if you cannot find the solution select hint in order to get the answer and move onto the next problem.

Comment on this question
The answer is D. 7/4
Comment on this hint
Select one:

- A. -1/4
- B. 1.5
- C. -0.33
- D. 7/4

Submit Answer
Correct!
You are done with this problem!
Comment on this problem

Assistment #25894

Assistment

You are previewing content.
Which symbol should go in the blank?
-52 ___ 7

Comment on this question

Request Help

Select one:

- A. <
- B. >
- C. =

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

Which symbol should go in the blank?
-100 ___ 10

Solution:

Remember, negative numbers are always smaller than positive numbers.

-100 is a negative number and 10 is a positive number.

therefore -100 < 10

Comment on this question

Select one:

- I have read and understand the problem

Submit Answer
Correct!

Now back to the original problem.

Which symbol should go in the blank?

-52 ___ 7

Do your best, if you cannot find the solution select hint in order to get the answer and move onto the next problem.

Comment on this question

The answer is A. <

Comment on this hint

Select one:

- A. <
- B. >
- C. =

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #12415

Assistment

You are previewing content.
In the school parking lot at the High School there were 1200 cars and 300 SUVs,
for a total of 1500 vehicles all together. Complete the statement:
People drove Cars and SUVs in a ratio of ___ to 1.

Comment on this question

We are asked to find a ratio of Cars to SUV's. Start by writing the ratio using the numbers we know
Cars : SUV's =
1200 : 300

Comment on this hint

Now we need to reduce that ratio so that it is in the form ____:1

Comment on this hint

If we divide both parts by 300 we get 1200/300 : 300/300 or 4 : 1

Comment on this hint

The ratio we want is 4:1 Please enter 4.

Comment on this hint

Type your answer below:

- 4

Submit Answer

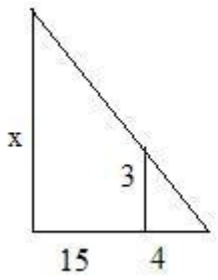
Correct!
You are done with this problem!

Comment on this problem

Assistment #15792

Assistment

You are previewing content.
Which proportion can be used to calculate x?

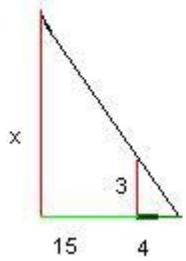


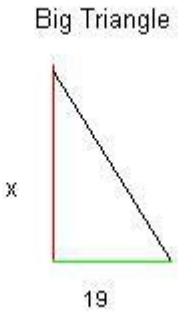
$A: \frac{x}{15} = \frac{3}{4}$ $C: \frac{x}{3} = \frac{19}{4}$

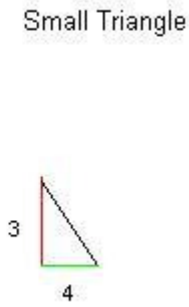
$B: \frac{15}{4} = \frac{3}{x}$ $D: \frac{x}{19} = \frac{4}{3}$

Comment on this question

Here is a picture of the triangles separated. The red side of the big triangle corresponds to the red side of the little triangle and the green side of the large triangle corresponds to the green side of the small triangle.







Comment on this hint

Choice A looks OK because corresponding side are next to each other in the equation

$$\frac{x \rightarrow 3}{15 \rightarrow 4}$$

but 15 is not the length of the green side of the big triangle, so it cannot be the correct answer.

Comment on this hint

Choice B also has 15 in it, so it cannot be right either.

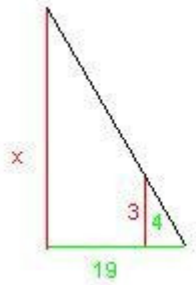
Comment on this hint

Choice D does not have corresponding sides placed opposite of each other in the equation, so it is wrong as well.

$$\frac{x \rightarrow 4 \ \ not\ 3}{19 \rightarrow 3\ not\ 4}$$

Comment on this hint

Choice C is the correct answer.



The corresponding sides match in the equation

$$\frac{x}{3} = \frac{19}{4}$$

Three other proportions that are also correct are:

$$\frac{3}{x} = \frac{4}{19} \qquad \frac{4}{19} = \frac{3}{x} \qquad \frac{19}{4} = \frac{x}{3}$$

Comment on this hint

Select one:

- A
- B
- C
- D

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #15844

Assistment

You are previewing content.
Apples are on sale. You can buy 5 apples for $2. How much will it cost for 36 apples?

Comment on this question

One way to solve this problem is to let the variable x represent the the cost of 36 apples and set up a proportion

Comment on this hint

If you set up a proportion it will look like this:

$$\frac{2}{5}=\frac{x}{36}$$

Comment on this hint

$$\frac{2*\square}{5*\square}=\frac{x}{36}$$

To find x, first you must determine the number you multiply by 5 to get 36.

Comment on this hint

Since 36 divided by 5 is 7.2, we know that 5*7.2=36. so we have:

$$\frac{2*7.2}{5*7.2}=\frac{x}{36}$$

Now we can find x.

Comment on this hint

Now you must multiply the numerator 2 by 7.2 to get 14.4. $14.40 is the cost of 36 apples, please enter 14.4

Comment on this hint

Type your answer below (mathematical expression):

- 14.4

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #21587

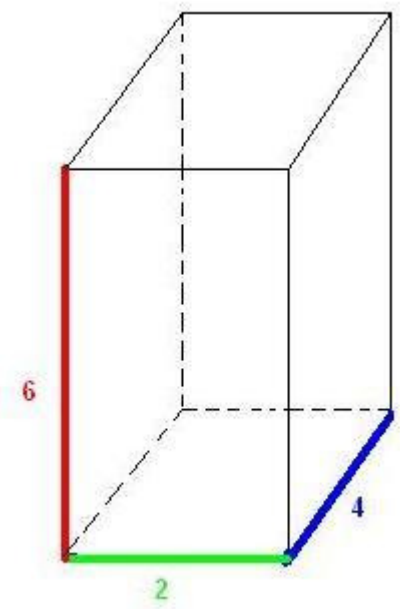
Assistment

You are previewing content.

A retangular box has dimensions 2 feet x 4 feet x 6 feet. It has 6 faces. Two have area $8ft^2$; two have area $24ft^2$. What is the area of one of the two remaining faces of the box? (It may help to draw a sketch)

Comment on this question

Draw picture and label the sides.

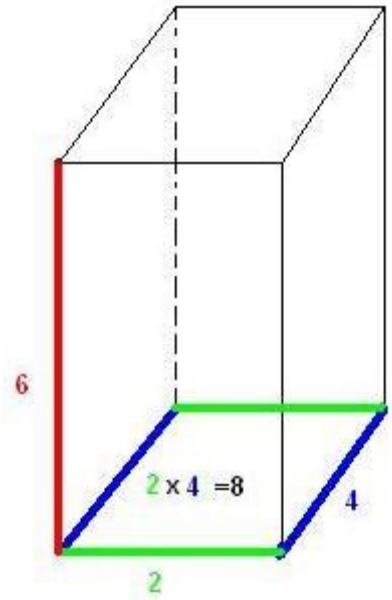


Comment on this hint

Remember area of a rectangle = L x W or Length x Width

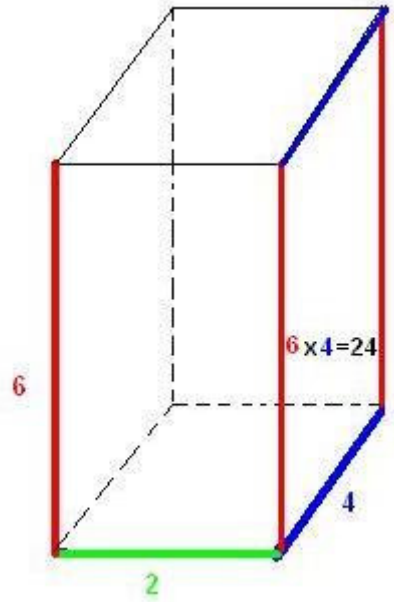
Comment on this hint

The green and blue colored rectangle has an area of 2ft*4ft or 8ft.



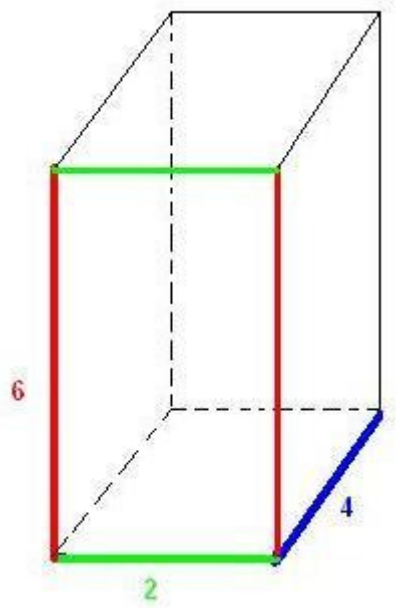
Comment on this hint

The red and blue rectangle has an area of or 6ft * 4ft or 24ft.



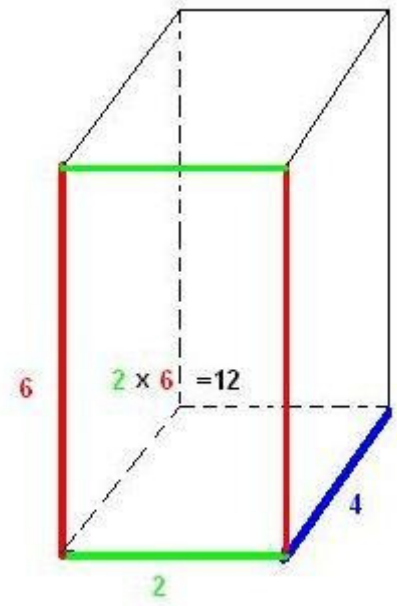
Comment on this hint

How many square feet is the area of one of the remaining two faces of the box(the red and green face)?



Comment on this hint

Now that we know that the red blue face has area 24ft^2 and the green blue face has area 8ft^2 the one left is the red green face.
What is the area of the red green face?



Comment on this hint

The area of the last two faces is 12 ft squared, please enter 12.

Comment on this hint

Type your answer below (mathematical expression):

- 12

Submit Answer
Correct!

You are done with this problem!

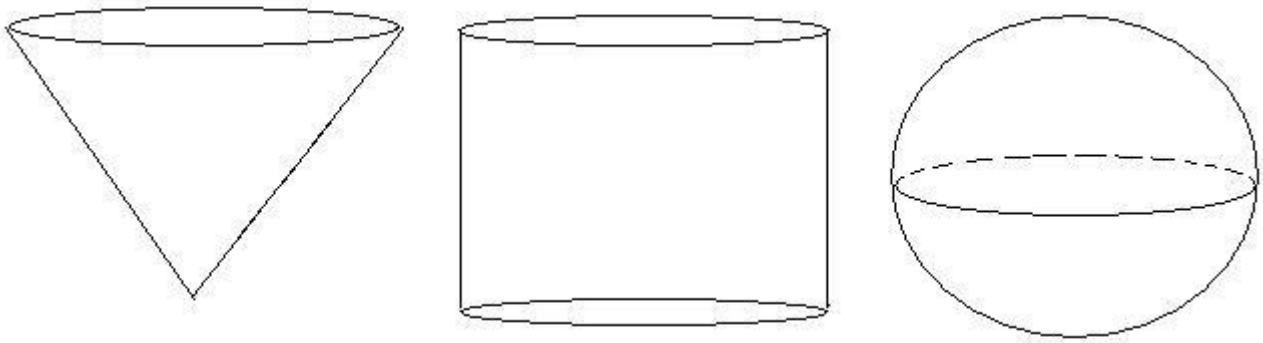
Comment on this problem

Assistment #21806

Assistment

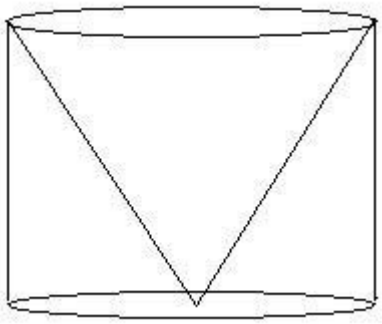
You are previewing content.

There are three water tanks for sale. Each has a radius of 7 ft and a height of 14 feet. Which has the greatest volume?



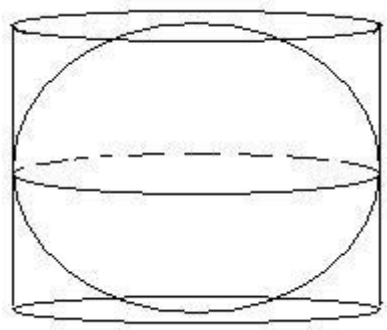
Comment on this question

Since the cone and the cylinder have the same height, the cone will fit right inside the cylinder. Therefore the cylinder is larger than the cone.



Comment on this hint

Since the sphere and the cylinder have the same height, the sphere will fit right inside the cylinder. Therefore the cylinder is larger than the sphere.



Comment on this hint

So the cylinder is the largest tank since it is bigger than both the cone and the sphere

Comment on this hint

Select one:

- Sphere
- Cylinder
- Cone

Submit Answer

Correct!

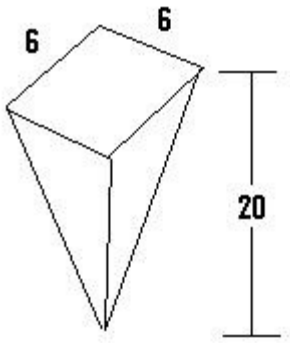
You are done with this problem!

Comment on this problem

Assistment #21807

Assistment

You are previewing content.
The frozen yummy store sells frozen yogurt in a pyramid shaped container. One container filled just to the top with frozen yogurt costs $3. How much frozen yogurt in cubic cm can you get for $1?



Comment on this question

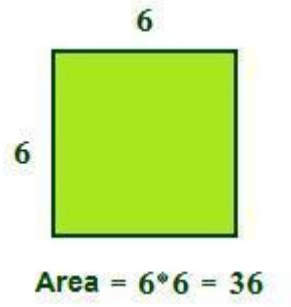
In order to find the volume of frozen yogurt you get for $1, you must first find the volume of the frozen yogurt you get for $3.

Comment on this hint

Remember that the volume of a cone = 1/3 the area of the base * height

Comment on this hint

The base is just a square.



volume of a cone = 1/3 of **36** * height

Comment on this hint

1/3 * **36** * 20 = volume
12 * 20 =
240

For $3, you get 240 cm^3 of yogurt.

Comment on this hint

If 240 cm^3 costs $3 then how much frozen yogurt do you get for $1.

Comment on this hint

240/3= 80cm^3 is the amount of frozen yogurt you get for $1. Type in 80.

Comment on this hint

Type your answer below:

- 80

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #24752

Assistment

You are previewing content.

Danielle took her little cousin to the "Dress a Dragon" store. Here you can choose to dress your dragon from a choice of hats, pants, and shirts. Here are the choices:

Hat A Pants A Shirt A

Hat B Pants B Shirt B

Hat C Pants C

Hat D

Hat E

What is the probability that Danielle's cousin will dress her dragon in Hat C, Pants B, and Shirt A?

Comment on this question

Probability is defined as the number of choices or outcomes wanted divided by the total number of choices possible.

Comment on this hint

How many total combinations of outfits are there?

Comment on this hint

The first letter is the hat, the second is the pants, and the third is the shirt.

AAA	AAB	ABA	ABB	ACA	ACB
BAA	BAB	BBA	BBB	BCA	BCB
CAA	CAB	CBA	CBB	CCA	CCB
DAA	DAB	DBA	DBB	DCA	DCB
EAA	EAB	EBA	EBB	ECA	ECB

There are 30 different outfits. How many outfits match the one we want?

Comment on this hint

The first letter is the hat, the second is the pants, and the third is the shirt.

AAA	AAB	ABA	ABB	ACA	ACB
BAA	BAB	BBA	BBB	BCA	BCB
CAA	CAB	CBA	CBB	CCA	CCB
DAA	DAB	DBA	DBB	DCA	DCB
EAA	EAB	EBA	EBB	ECA	ECB

Since only 1 outfit matches the outfit we want, the answer is 1/30. Please enter 1/30.

Comment on this hint

Type your answer below (mathematical expression):

- 1/30

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #24753

Assistment

You are previewing content.

Danielle took her little cousin to the "Dress a Dragon" store. Here you can choose to dress your dragon fram a choice of hats, pants, and shirts. Here are the choices:

Hat A Pants A Shirt A

Hat B Pants B Shirt B

Hat C Pants C

Hat D

Hat E

What is the probability that Danielle's cousin will not dress his dragon in Pants B or Shirt B?

Comment on this question

One way to solve this problem is to determine how many outfits do not contain pants B or shirt B and divide by the total number of combinations.

Comment on this hint

The first letter is the hat, the second is the pants, and the third is the shirt.

AAA	AAB	ABA	ABB	ACA	ACB
BAA	BAB	BBA	BBB	BCA	BCB
CAA	CAB	CBA	CBB	CCA	CCB
DAA	DAB	DBA	DBB	DCA	DCB
EAA	EAB	EBA	EBB	ECA	ECB

How many outfits do not have pants B or shirt B?

Comment on this hint

The first letter is the hat, the second is the pants, and the third is the shirt.

AAA	AAB	ABA	ABB	ACA	ACB
BAA	BAB	BBA	BBB	BCA	BCB
CAA	CAB	CBA	CBB	CCA	CCB
DAA	DAB	DBA	DBB	DCA	DCB
EAA	EAB	EBA	EBB	ECA	ECB

There are 10 outfits that do not have pants B or shirt B.

Comment on this hint

Since 10 of the 30 choices do not contain pants B or shirt B, the probability is 10/30. Please enter 10/30.

Comment on this hint

Type your answer below (mathematical expression):

- 10/30

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #24933

Assistment

You are previewing content.

Michael's math scores are shown below.

88, 87, 95, 72, 78, 80, 83, 80

Which of the following is a stem-and-leaf plot that correctly shows Michael's math quiz scores?

A.

Math Quiz Scores	
8	8 7 0 3 0
9	5
7	2 8

Key
8 | 5 represents 85

C.

Math Quiz Scores	
9	5
7	2 8
8	0 0 3 7 8

Key
8 | 5 represents 85

B.

Math Quiz Scores	
7	2 8
8	0 0 3 7 8
9	5

Key
8 | 5 represents 85

D.

Math Quiz Scores	
7	2 8
8	0 3 7 8
9	5

Key
8 | 5 represents 85

Comment on this question

Request Help

Select one:

- A
- B
- C
- D

Submit Answer

Let's move on and figure out this problem

To make a stem and leaf plot, you first need to order your list of numbers from smallest to largest. Given our list:

87, 88, 95, 72, 78, 80, 83, 80

What is the list ordered smallest to largest?

Comment on this question

Select one:

- 87 88 95 72 78 80 83 80
- 95 88 87 83 80 80 78 72
- 72 78 80 80 83 87 88 95
- 72 78 80 83 87 88 95

Submit Answer

Correct!

Now we need to decide what the stems of the stem and leaf plot are. Given Michael's ordered list:

72 78 80 80 83 87 88 95

Which of the following gives the correct stems for the stem and leaf plot?

A.

Math Quiz Scores
8
9
7

Key
8 | 5 represents 85

C.

Math Quiz Scores
9
7
8

Key
8 | 5 represents 85

B.

Math Quiz Scores
7
8
9

Key
8 | 5 represents 85

D.

Math Quiz Scores
7
9
8

Key
8 | 5 represents 85

Comment on this question

The stems should be in order from least to greatest.

Comment on this hint

Select one:

- A
- B
- C
- D

Submit Answer
Correct!

Now that we have the stems, we need to add the leaves. Like the stems, the leaves need to be ordered as well. Given our list:

88 87 95 72 78 80 83 80

Which is the correct stem and leaf plot?

A.

Math Quiz Scores	
8	8 7 0 3 0
9	5
7	2 8

Key
8 | 5 represents 85

C.

Math Quiz Scores	
9	5
7	2 8
8	0 0 3 7 8

Key
8 | 5 represents 85

B.

Math Quiz Scores	
7	2 8
8	0 0 3 7 8
9	5

Key
8 | 5 represents 85

D.

Math Quiz Scores	
7	2 8
8	0 3 7 8
9	5

Key
8 | 5 represents 85

Comment on this question
Choices A and C do not have the stems in order.
Comment on this hint
Choice D does not have 80 twice.
Comment on this hint
Choice B is the correct choice.
Comment on this hint
Select one:

- A
- B
- C
- D

Submit Answer
Correct!
You are done with this problem!
Comment on this problem

Assistment #24933

Assistment

You are previewing content.

Michael's math scores are shown below.

88, 87, 95, 72, 78, 80, 83, 80

Which of the following is a stem-and-leaf plot that correctly shows Michael's math quiz scores?

A.

Math Quiz Scores	
8	8 7 0 3 0
9	5
7	2 8

Key
8 | 5 represents 85

C.

Math Quiz Scores	
9	5
7	2 8
8	0 0 3 7 8

Key
8 | 5 represents 85

B.

Math Quiz Scores	
7	2 8
8	0 0 3 7 8
9	5

Key
8 | 5 represents 85

D.

Math Quiz Scores	
7	2 8
8	0 3 7 8
9	5

Key
8 | 5 represents 85

Comment on this question

Request Help

Select one:

- A
- B
- C
- D

Submit Answer

Let's move on and figure out this problem

To make a stem and leaf plot, you first need to order your list of numbers from smallest to largest. Given our list:

87, 88, 95, 72, 78, 80, 83, 80

What is the list ordered smallest to largest?

Comment on this question

Select one:

- 87 88 95 72 78 80 83 80
- 95 88 87 83 80 80 78 72
- 72 78 80 80 83 87 88 95
- 72 78 80 83 87 88 95

Submit Answer

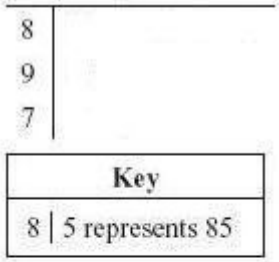
Correct!

Now we need to decide what the stems of the stem and leaf plot are. Given Michael's ordered list:

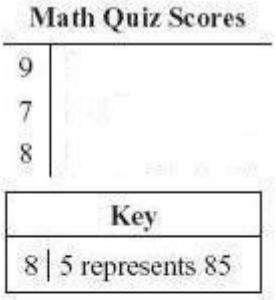
72 78 80 80 83 87 88 95

Which of the following gives the correct stems for the stem and leaf plot?

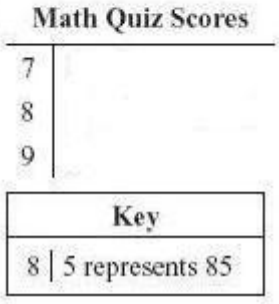
A.



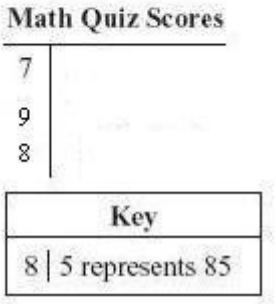
C.



B.



D.



Comment on this question

The stems should be in order from least to greatest.

Comment on this hint

Select one:

- A
- B
- C
- D

Submit Answer
Correct!

Now that we have the stems, we need to add the leaves. Like the stems, the leaves need to be ordered as well. Given our list:

88 87 95 72 78 80 83 80

Which is the correct stem and leaf plot?

A.

Math Quiz Scores	
8	8 7 0 3 0
9	5
7	2 8

Key
8 | 5 represents 85

C.

Math Quiz Scores	
9	5
7	2 8
8	0 0 3 7 8

Key
8 | 5 represents 85

B.

Math Quiz Scores	
7	2 8
8	0 0 3 7 8
9	5

Key
8 | 5 represents 85

D.

Math Quiz Scores	
7	2 8
8	0 3 7 8
9	5

Key
8 | 5 represents 85

Comment on this question
Choices A and C do not have the stems in order.
Comment on this hint
Choice D does not have 80 twice.
Comment on this hint
Choice B is the correct choice.
Comment on this hint
Select one:

- A
- B
- C
- D

Submit Answer
Correct!
You are done with this problem!
Comment on this problem

Assistment #24949

Assistment

You are previewing content.
Marcus has a bag of 20 table tennis balls. The probability of selecting a yellow table tennis ball without looking is 3/10. What is the total number of yellow table tennis balls in the bag?

Comment on this question

Request Help

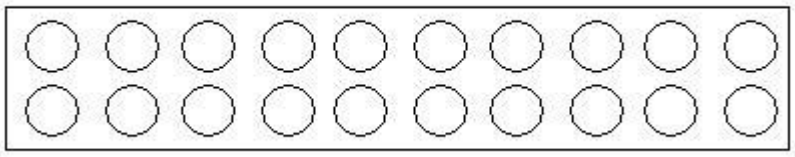
Type your answer below (mathematical expression):

Submit Answer

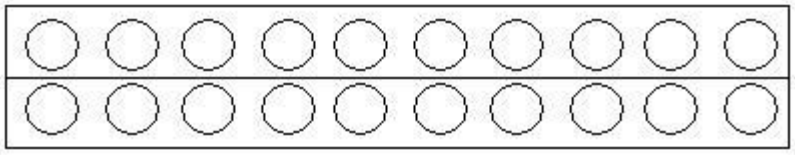
Let's move on and figure out this problem

Since we know the probability of getting a yellow tennis ball is 3/10, we first need to separate the 20 tennis balls into ten parts. Which model shows this?

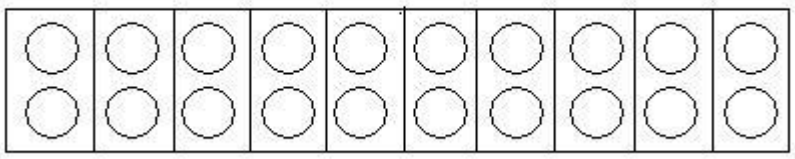
Model 1



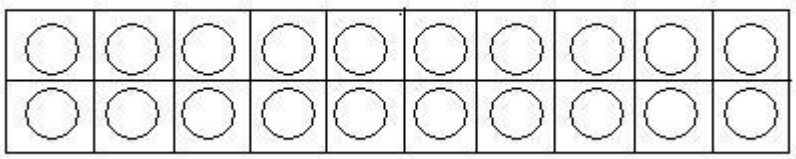
Model 2



Model 3



Model 4



Comment on this question

Model 1 has the 20 balls grouped together as a whole.

Comment on this hint

Model 2 has the 20 balls split into 2 parts.

Comment on this hint

Model 4 has the 20 balls split into 20 parts.

Comment on this hint

Model 3 has the 20 ball split into 10 parts. Please choose model 3.

Comment on this hint

Select one:

- Model 1
- Model 2
- Model 3
- Model 4

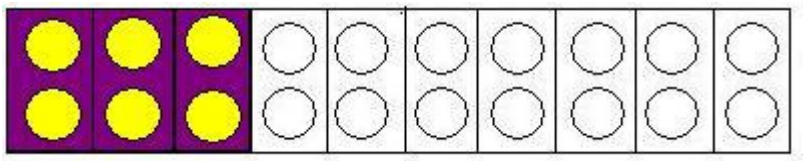
Submit Answer

Correct!

Now that we have the 20 balls split into 10 parts, we need to fill in 3 of those parts. If we fill in those 3 parts, how many tennis ball have we filled in?

Comment on this question

Here is the model with three parts filled in.



Comment on this hint

How many tennis balls are filled in?

Comment on this hint

There are six tennis balls filled in. So there are 6 yellow tennis balls in the bag. Please enter 6.

Comment on this hint

Type your answer below (mathematical expression):

- 6

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #24951

Assistment

You are previewing content.

Katie will take a total of 5 mathematics tests. She has taken 4 mathematics test so far. The scores on her first 4 test are shown in the table below.

Katie's Mathematics Test Scores

Test	Score
1	94
2	98
3	86
4	92
5	?

What is the median of Katie's first 4 mathematics test scores?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem
To find the median, you must know what he median is. What is the definition of the median?

Comment on this question

Request Help

Select one:

- The sum of the scores divided by the total number of scores.
- The middle score from the list.
- The score that appears the most number of times.
- The difference of the largest and smallest score.

Submit Answer

Correct!

Now that we know the definition of the median, we now need to order the list from smallest to largest. Given Katie's scores below:

Katie's Mathematics Test Scores

Test	Score
1	94
2	98
3	86
4	92
5	?

What is the correct order of the scores from smallest to largest?

Comment on this question

Select one:

- 94 98 86 92
- 92 94 98 86
- 86 98 94 92
- 86 92 94 98

Submit Answer

Correct!

Now that we have the ordered list, we can find the median of Katie's scores. Since there is an even number of scores, the median is the mean of the two middle scores. Given the scores:

86 92 94 98

What is the median of Katie's scores?

Comment on this question

Request Help

Type your answer below (mathematical expression):

- 93

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #24952

Assistment

You are previewing content.

Katie will take a total of 5 mathematics tests. She has taken 4 mathematics tests so far. The scores on her first 4 tersts are shown in the table below.

Katie's Mathematics Test Scores

Test	Score
1	94
2	98
3	86
4	92
5	?

What is the average (mean) of Katie's first 4 mathematics tests?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

To find the average (mean), you need to know what the mean is. What is the defintion of the mean?

Comment on this question

The middle score of the list is called the median.

Comment on this hint

The score that appears the most number of times is called the mode.

Comment on this hint

The difference of the largest and smallest score is called the range.

Comment on this hint

The sum of the score divided by the total number of scores is called the mean.

Comment on this hint

Select one:

- The sum of the scores divided by the total number of scores.
- The middle score from the list.
- The score that appears the most number of times?
- The difference of the largest and smallest score.

Submit Answer

Correct!

Now that we know what the mean is, we can calculate the mean of Katie's scores. Given Katie's scores below:

Katie's Mathematics Test Scores

Test	Score
1	94
2	98
3	86
4	92
5	?

What is the mean of Katie's scores?

Comment on this question

What is the sum of Katie's scores?

Comment on this hint

The sum of Katie scores is 94+98+86+92=370.

Comment on this hint

The total number of scores is 4.

Comment on this hint

The mean of Katie's scores is 370/4=92.5. Please enter 92.5.

Comment on this hint

Type your answer below (mathematical expression):

- 92.5

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #24953

Assistment

You are previewing content.

Katie will take a total of 5 mathematics tests this year. She has taken 4 mathematics tests so far. The scores on her first 4 tests are shown in the table below.

Katie's Mathematics Test Scores

Test	Score
1	94
2	98
3	86
4	92
5	?

What score must Katie get on her fifth mathematics test in order to have a mean score of 90 on all of her mathematics tests?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

To find the mean (average), you must know what the definition of the mean is. What is the definition of the mean?

Comment on this question

The difference of the largest and smallest score is called the range.

Comment on this hint

The middle score from the ordered list is called the median.

Comment on this hint

The score that appears the most number of times is called the mode.

Comment on this hint

The sum if the scores divided by the total number of scores is called the mean.

Comment on this hint

Select one:

- The difference of the largest and smallest score.
- The middle score from the ordered list.
- The sum of the scores divided by the total number of scores.
- The score that appears the most number of times?

Submit Answer

Correct!
We now know what the average is. Next we need to find out what the total sum of Katie's scores must be. Given that the average of her 5 scores is 90, what is the total sum of Katie's scores?

Comment on this question

Since the average score is the sum of the scores divided by the total number of scores, multiply the average score by the number of scores to find the total sum.

Comment on this hint

The average score is 90.

Comment on this hint

The total number of scores is 5.

Comment on this hint

What is 90 * 5?

Comment on this hint

90*5=450. Please enter 450.

Comment on this hint

Type your answer below (mathematical expression):

- 450

Submit Answer

Correct!
Now we know Katie's sum of scores is 450. Katie's first 4 scores are 86, 92, 94, and 98. We now need the number to add to her scores to get 450. Which operation below give the number we need?

Comment on this question

Select one:

- 450+94+98+86+82
- 450-94-98-86-92
- 450/(84+98+83+92)
- (94+98+86+92)/450

Submit Answer

Correct!
Now we know to take the difference of 450 and Katie's four others scores. Katie's first four scores are 86, 92, 94, and 98. What must the last score be for Katie ot have an average of 90?

Comment on this question

Type your answer below (mathematical expression):

- 80

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #25094

Assistment

You are previewing content.

Bjorn is working on a class project on foreign newspapers. The chart below shows the information that Bjorn will show to his class.

Foreign Newspapers

Country	Number of Newspapers
Spain	85
Venezuela	89
Canada	107
Sweden	98
United Kingdom	103

Which of the following is a stem and leaf plot that corerectly displays this information?

A.

Stem	Leaf
8	5 9
9	8
10	3 7

KEY
6|2 represents 62

C.

Stem	Leaf
9	8
8	9 5
10	3 7

KEY
6|2 represents 62

B.

Stem	Leaf
1	3 7
8	9 5
9	8

KEY
6|2 represents 62

D.

Stem	Leaf
8	85 89
9	98
10	103 107

KEY
6|2 represents 62

Comment on this question

Request Help

Select one:

- A
- B
- C
- D

Submit Answer

Let's move on and figure out this problem

To make a stem and leaf plot, you first must order your list from smallest to largest. Given our list of numbers of newspapers:

85 89 107 98 103

What is the list ordered smallest to largest?

Comment on this question

Select one:

- 85 89 98 103 107
- 107 103 98 89 85
- 98 89 85 107 103
- 107 85 103 89 98

Submit Answer

Correct!

Now we need to decide what the stems of the stem and leaf plot are. Given our ordered list:

85 89 98 103 107

Which of the following gives the correct stems for the stem and leaf plot?

A.

Stem	Leaf
8	
9	
10	

KEY
6|2 represents 62

C.

Stem	Leaf
9	
8	
10	

KEY
6|2 represents 62

B.

Stem	Leaf
1	
8	
9	

KEY
6|2 represents 62

D.

Stem	Leaf
8	
9	
0	

KEY
6|2 represents 62

Comment on this question

The stems should be in order from smallest to largest.

Comment on this hint

Select one:

- A
- B
- C
- D

Submit Answer

Correct!

Now that we have the stems, we need to add the leaves. Like the stems, the leaves need to be ordered. Given our list:

85 89 98 103 107

Which is the corrrect stem and leaf plot?

A.

Stem	Leaf
8	5 9
9	8
10	3 7

KEY
6|2 represents 62

C.

Stem	Leaf
9	8
8	9 5
10	3 7

KEY
6|2 represents 62

B.

Stem	Leaf
1	3 7
8	9 5
9	8

KEY
6|2 represents 62

D.

Stem	Leaf
8	85 89
9	98
10	103 107

KEY
6|2 represents 62

Comment on this question

Select one:

- A
- B
- C
- D

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

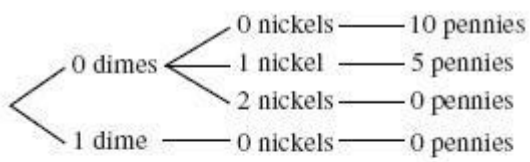
Assistment #25097

Assistment

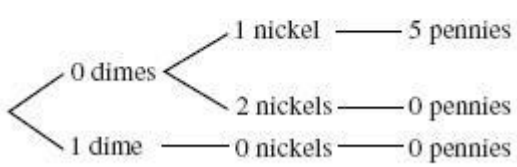
You are previewing content.

Stuart bought a candy bar that cost 90 cents. He gave the cashier a $1 bill. Which of the following tree diagrams shows all of the ways the cashier can give correct change using nickels, dimes, and pennies?

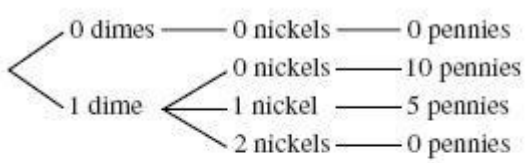
A.



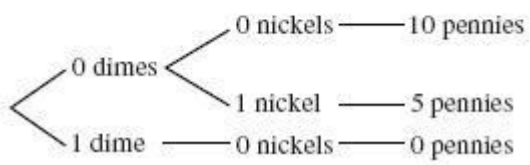
B.



C.



D.



Comment on this question

Request Help

Select one:

- A
- B
- C
- D

Submit Answer

Let's move on and figure out this problem
First we need to konw how much change we get get back. If we paid $1 for a 90 cent candy bar, how much change should we get back?

Comment on this question

$1 is 100 cents.

Comment on this hint

Type your answer below (mathematical expression):

- 10

Submit Answer

Correct!

Now we know we get back 10 cents. Next we need to figure out how many ways there are to make 10 cents from pennies, nickels, and dimes. Check all of the ways to make 10 cents.

Comment on this question

A dime is 10 cents, a nickel is 5 cents, and a penny is 1 cent.

Comment on this hint

Select all that apply:

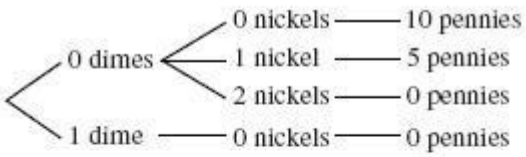
- ☑ 1 dime
- ☑ 2 nickels
- ☑ 10 pennies
- ☑ 1 nickel and 5 pennies

Submit Answer

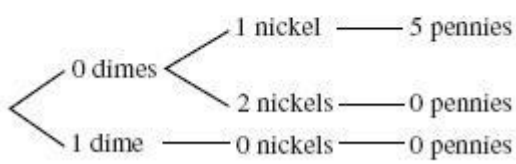
Correct!

Now we know that there are 4 ways to get 10 cents back. Which tree diagram has all of the ways to get 10 cents back?

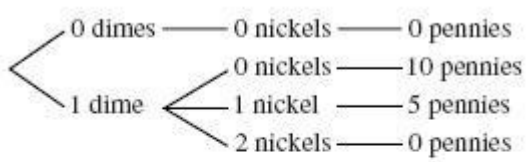
A.



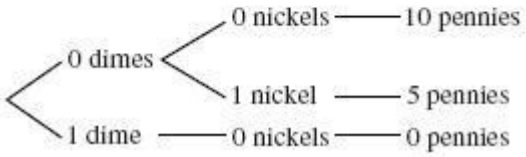
B.



C.



D.



Comment on this question

Select one:

- A
- B
- C
- D

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25333

Assistment

You are previewing content.
In the school parking lot at the High School there were 1200 cars and 300 SUV's, for a total of 1500 vehicles.
Complete the statement: ____% of the vehicles in the parking lot were SUV's.

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the on in the red box above:

Problem:

In the parking lot at the football stadium there were 3000 trucks and 1000 vans, for a total of 4000 vehicles.
Complete the following statement: ___% of the vehicles were trucks.

Solution:

In order to find a percent, we need to find the fraction Part/Whole. In this problem, the whole is the number of vehicles and the part is the number of trucks.

The fraction of trucks to vehicles is 3000/4000 = 3/4 = .75

.75 = 75%, so 75% of the vehicles are trucks.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

In the school parking lot of the local HIgh School there were 1200 cars and 300 SUV's, for a total of 1500 vehicles. Complete the statement: ___% of the vehicles are SUV's.

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 20%. Please enter 20.

Comment on this hint

Type your answer below:

- 20

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25339

Assistment

You are previewing content.
In the school parking lot of the local university there were 500 motorcycles and 1500 cars, for a total of 2000 vehicles. Complete the statement: ___% of the vehicles were motorcycles.

Comment on this question

In order to find a percent, we need to find the fraction Part/Whole.

Comment on this hint

In the phrase "___% **of the vehicles were motorcycles.**" the vehicles are the whole and the motorcycles are the part.

Comment on this hint

The fraction is motorcycles/vehicles or 500/2000.

Comment on this hint

500/2000 = 5/20 = 1/4 = .25

Comment on this hint

.25 = 25% Please enter 25.

Comment on this hint

Type your answer below:

- 25

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #25341

Assistment

You are previewing content.
In the parking lot of the local university there were 500 motorcycles and 1500 cars, for a total of 2000 vehicles. Complete the statement: ___% of the vehicles were motorcycles.

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution of a problem **similar** to the one in the red box above:

Problem:

In the parking lot at the football stadium there were 3000 trucks and 1000 vans, for a total of 4000 vehicles. Complete the statement: ___% of the vehicles were trucks.

Solution:

In order to find the percent, we need the fraction Part/Whole. In this problem the whole is the number of vehicles and the part is the number of trucks.

The fraction of trucks to vehicles is 3000/4000 = 3/4 = .75

.75 = 75%, so 75% of the vehicles are trucks.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

In the parking lot of the local university there were 500 motorcycles and 1500 cars, for a total of 2000 vehicles. Complete the statement: ___% of the vehicles wee motorcycles.

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 25%. Please enter 25.

Comment on this hint

Type your answer below:

- 25

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25349

Assistment

You are previewing content.
In the school parking lot at the High School there were 1200 cars and 300 SUV's, for a total of 1500 vehicles.
Complete the statement: People drove Cars and SUV's in a ratio of __ to 1.

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above:

Problem:

In the parking lot at the football stadium there were 3000 trucks and 1000 vans, for a total of 4000 vehicles.
Complete the statement: People drove trucks and vans in a ratio of __ to 1.

Solution:

We are asked to find the ratio of Trucks to Vans. That ratio is Trucks:Vans = 3000:1000.

To reduce this ratio to look like __ to 1, divide both sides by 1000, getting:

$$\frac{3000}{1000} : \frac{1000}{1000}$$

or 3:1.

We are looking for the missing part in ___:1 so 3 is the answer.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

In the parking lot of the High School there were 1200 cars and 300 SUV's, for a total of 1500 vehicles.
Complete the statement: People drove Cars and SUV's in a ratio of __ to 1.

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is 4 to 1. Please enter 4.

Comment on this hint

Type your answer below:

- 4

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25352

Assistment

You are previewing content.
In the parking lot of the local university there were 500 motorcycles and 1500 cars, for a total of 2000 vehicles. Complete the statement: People drove cars and motorcycles in a ratio of __ to 1.

Comment on this question

We are asked to find the ratio of cars to motorcycles. Start by writing the ratio using the numbers we know. cars:motorcycles = 1500:500.

Comment on this hint

Now we need to reduce that ratio so that is in the form __:1.

Comment on this hint

If we divide both sides by 500, we get 1500/500 : 500/500 = 3:1

Comment on this hint

The ratio we want is 3:1. Please enter 3.

Comment on this hint

Type your answer below:

- 3

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #25353

Assistment

You are previewing content.
In the parking lot of the local university there were 500 motorcycles and 1500 cars, for a total of 2000 vehicles. Complete the statement: People drove cars and motorcycles in the ratio __ to 1.

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above:

Problem:

In the parking lot of the foootball stadium there were 3000 trucks and 1000 vans, for a total of 4000 vehicles. Complete the statement: People drove trucks and vans in a ratio of __ to 1.

Solution:

We are asked to find te ratio of trucks to vans. That ratio is 3000:1000.

To reduce this ratio to look like _ to 1, divide both sides by 1000, getting

$$\frac{3000}{1000} : \frac{1000}{1000}$$

= 3:1.

We are looking for the missing part in ___:1 so 3 is the answer.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look at the worked example if that helps you.

In the parking lot of the local university there were 500 motorcycles and 1500 cars, for a total of 2000 vehicles. Complete the estatement: People drove cars and motorcycles in a ratio of __ to 1.

Do your best, if you cannot get the correct answer, select hint to get the answer so you can go on.

Comment on this question

The answer is 3 to 1. Please enter 3.

Comment on this hint

Type your answer below:

- 3

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25419

Assistment

You are previewing content.

Use the table to answer the question.

The height of the elephant is what percent the height of the giraffe?

(Round to the nearest percent)

Average height and weight of animals

Type of Animal	Height in feet	Weight in pounds
Elephant	10	1500
Giraffe	18	3000

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above.

Problem:

Use the table to solve the problem.

The height of the chicken is what percent the height of the hippopotamus?

(Round to the nearest percent)

Average height and weight of animals

Animal	height in feet	weight in pounds
chicken	2	4
hippopotamus	6	9600

Solution:

Notice we want to find out how the height of the chicken compares to the hippo.

This makes the hippo the whole and we know the percent will be less than 100% since the chicken is so short compared to the hippo.

To answer this question, we need the height of the chicken in the numerator and the height of the hippopotamus in the denominator where the whole goes.

That fraction is chicken height/hippopotamus height = 2/6 = 1/3 = .3333 or 33.33%

Rounded to the nearest whole number, the percentage is 33%.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Use the table to answer the question.

The height of the elephant is whatpercent the height of the giraffe?

(Round to the nearest percent)

Average height and weight of animals

Type of Animal	Height in feet	Weight in pounds
Elephant	10	1500
Giraffe	18	3000

Do your best, if you cannot get the correct answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 56%. Please enter 56.

Comment on this hint

Type your answer below:

- 56

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25427

Assistment

You are previewing content.

Use the table to answer the question.

The height of the meerkat is what percent the height of the warthog?

(Round to the nearest percent)

Average height and weight of animals

Animal	height in feet	weight in pounds
meerkat	2	2
warthog	7	63

Comment on this question

To solve this problem, we need the fraction height of meerkat to height of warthog.

Comment on this hint

We wish to know the percentage of the meerkat's height with respect to the warthog's height, so the bottom of the fraction should be the warthog's height (or the total we are comparing to).

Since the warthog is taller than the meerkat, the percentage must be less than 100%.

Comment on this hint

That fraction is **2**/**7** = .2857 = 28.57%

Comment on this hint

The percent rounded to the nearest whole number is 29%. Please enter 29.

Comment on this hint

Type your answer below (mathematical expression):

- 29

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25428

Assistment

You are previewing content.

Use the table to answer the question.

The height of the meerkat is what percent the height of the warthog?

(Round to the nearest percent)

Average height and weight of animals

Animals	height in feet	weight in pounds
meerkat	2	2
warthog	7	63

Comment on this question

Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem **similar** to the one in the red box above.

Problem:

Use the table to answer the question.

The height of the chicken is what percent the height of the hippopotamus?

(Round to the nearest percent)

Average height and weight of animals

Animal	height in feet	weight in pounds

chicken	2	4
hippopotamus	6	9600

Solution:

Notice we want to find out how the height of the chicken compares to the hippo. This makes the hippo the whole and we know the percent will be less than 100% since the hippo is so TALL compared to the chicken.

To answer this question, we need the height of the chicken in the numerator and the height of the hippopotamus in the denominator where the whole goes.

That fraction is chicken height /hippopotamus height = 2/6 = 1/3 = .3333 or 33.33%.

That percent rounded ot the nearest whole number is 33%.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Use the table to answer the question.

The height of the meerkat is what percent the height of the warthog?

(Round to the nearest percent)

Average height and weight of animals.

Animal	height in feet	weight in pounds
meerkat	2	4

warthog	7	63

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The corect answer is 29%. Please enter 29.

Comment on this hint

Type your answer below:

- 29

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25429

Assistment

You are previewing content.

Use the table to answer the question.

The height of the giraffe is what percent the height of the elephant?

Average height and weight of animals

Type of Animal	Height in feet	Weight in pounds
Elephant	10	1500
Giraffe	18	3000

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

Use the table to answer the question.

The height of the hippopotamus is what percent the height of the chicken?

Average height and weight of animals

Animal	height in feet	weight in pounds
chicken	2	4
hippopotamus	6	9600

Solution:

Notice we want to find out how the height of the heavy hipo compares to the little Chicken. This makes the Chicken the whole and we know the percent will be greater than 100% since the Hippo is so TALL compared to the chicken.

To answer this question, we need the height of the hippopotamus in the numerator and the height of the chicken in the denominator where the whole goes. We know this will be a top heavy fraction since we are comparing the hippo to the chicken.

That fraction is height of hippopotamus/height of chicken = 6/2 = 3 = 300%

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Use the table to answer the question.

The height of the giraffe is what percent the height of the elephant?

Average height and weight of animals

Type of Animal	Height in feet	Weight in pounds
Elephant	10	1500
Giraffe	18	3000

Comment on this question

The correct answer is 180%. Please enter 180.

Comment on this hint

Type your answer below:

- 180

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25438

Assistment

You are previewing content.

Use the table to answer the question.The height of the warthog is what percent the height of the meerkat?

Average height and weight of animals

Animal	height in feet	weight in pounds
meerkat	2	2
warthog	7	63

Comment on this question

We wish to know the percentage of the warthog's height with respect to the meerkat's height, so the bottom of the fraction should be the meerkat's height (or the total we are comparing to).

Since the meerkat is shorter than the warthog, the percentage must be greater than 100%. The warthog is more than 100% of the height of the meerkat.

Comment on this hint

To answer this question, we need the fraction height of warthog/height of meerkat.

Comment on this hint

That fraction is 7/2 = 3.5.

Comment on this hint

3.5 = 350%. Please enter 350

Comment on this hint

Type your answer below (mathematical expression):

- 350

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment

Assistment #25439

You are previewing content.

Use the table to answer the question.

The height of the warthog is what percent the height of the meerkat?

Average height and weight of animals

Animal	height in feet	weight in pounds
meerkat	2	2
warthog	7	63

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

Use the table to answer the question.

The height of the hippopotamus is what percent the height of the chicken?

Average height and weight of animals

Animal	height in feet	weight in pounds
chicken	2	4
hippopotamus	6	9600

Solution:

Notice we want to find out how the height of the heavy hippo compares to the little Chicken. This makes the Chicken the whole and we know the percent will be greater than 100% since the hippo is so TALL compared to the chicken.

To answer this question, we need the height of the hippopotamus in the numerator and the height of the chicken in the denominator where the whole goes. We know this will be a top heavy fraction since we are comparing the hippo to the chicken.

That fraction is height of hippopotamus/height of chicken = 6/2 = 3 = 300%

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Use the table to answer the question.

The height of the warthog is what percent the height of the meerkat?

Average height and weight of animals

Animal	height in feet	weight in pounds
meerkat	2	2
warthog	7	63

Comment on this question

The correct answer is 350%. Please enter 350.

Comment on this hint

Type your answer below (mathematical expression):

- 350

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25553

Assistment

You are previewing content.

The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Which mix will be the **lightest color of pink?**

Comment on this question

Request Help

Select one:

- K
- L
- M
- N

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

The Art teacher Mr. Jones was mixing blue and white paint together to make a lighter shade of blue paint.

Here are the different mixes he made:

Mix K: 1 cup blue and 8 cups white
Mix L: 4 cups blue and 4 cups white
Mix M: 5 cups blue and 7 cups white
Mix N: 2 cups blue and 6 cups white

Which mix will be the **lightest color of blue?**

Solution:

The mix that will be the lightest shade of blue will be the mix with the lowest portion of blue in it.

One way to solve this problem is to find the fraction of blue in each whole recipe (blue and white paint) and then select the mix with the least portion of blue in it out of the four mixes.

Mix	K	L	M	N
Cups of blue paint	1	4	5	2
Total cups of paint	(1+8)	(4+4)	(5+7)	(2+6)
Fraction of blue paint	1/9	4/8	5/12	2/8

Now that you have the fraction of paint for each mix, convert the fraction of blue paint to a decimal to make them easier to compare. Then select the mix with the least portion of blue paint in it.

Mix	K	L	M	N
Cups of blue paint	1	4	5	2
Total cups of paint	(1+8)	(4+4)	(5+7)	(2+6)
Fraction of blue paint	1/9	4/8	5/12	2/8
Fraction of blue paint	.11	.50	.42	.47

Since mix K has the smallest fraction of blue paint, mix K will be the lightest shade of blue.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Which mix will be the **lightest color of pink?**

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is mix L. Please select L.

Comment on this hint

Select one:

- K
- L
- M
- N

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25555

Assistment

You are previewing content.
The Art teacher Ms. Lively was mixing purple and white paint together to make a lighter shade of purple paint.
Here are the different mixes she made:

Mix K: 1 cup purple and 5 cups white
Mix L: 2 cups purple and 7 cups white
Mix M: 5 cups purple and 8 cups white
Mix N: 4 cups purple and 11 cups white

Which mix will be the **lightest color of purple?**

Comment on this question

The mix that will be the lightest shade of purple will be the mix with the lowest portion of purple in it. One way to solve this problem is to find the fraction of purple in each whole recipe (purple and white paint) and then select the mix with the least portion of purple in it out of the four mixes.

Comment on this hint

Mix	K	L	M	N
cups of purple paint	1	2	5	4
total cups of paint	(1+5)	(2+7)	(5+8)	(4+11)
Fraction of purple paint	1/6	2/9	5/13	4/15

Now that you have the fraction of paint of each mix, convert the fraction of purple paint to a decimal to make them easier to compare. Then select the mix with the least portion of purple paint in it.

Comment on this hint

Mix	K	L	M	N
cups of purple paint	1	2	5	4
total cups of paint	(1+5)	(2+7)	(5+8)	(4+11)
Fraction of purple paint	1/6	2/9	5/13	4/15
Fraction of purple paint	.17	.22	.38	.27

In the chart above, each fraction of purple paint in each mix has been converted into a decimal. The mix that will be the lightest purple, will have the least amount of purple paint as a decimal in it.

Comment on this hint

From the chart above, mix K has the smallest fraction of purple paint and therefore the lightest purple. Please select K.

Comment on this hint

Select one:

- K
- L
- M
- N

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25559

Assistment

You are previewing content.

The Art teacher Ms. Lively was mixing purple and white paint together to make a lighter shade of purple paint.
Here are the different mixes she made:

Mix K: 1 cup purple and 5 cups white
Mix L: 2 cups purple and 7 cups white
Mix M: 5 cups purple and 8 cups white
Mix N: 4 cups purple and 11 cups white

Which mix will be the **lightest color of purple?**

Comment on this question

Request Help

Select one:

- K
- L
- M
- N

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

The Art teacher Mr. Jones was mixing blue and white paint together to make a lighter shade of blue paint.

Here are the different mixes he made:

Mix K: 1 cup blue and 8 cups white
Mix L: 4 cups blue and 4 cups white
Mix M: 5 cups blue and 7 cups white
Mix N: 2 cups blue and 6 cups white

Which mix will be the **lightest color of blue?**

Solution:

The mix that will be the lightest shade of blue will be the mix with the lowest portion of blue in it.

One way to solve this problem is to find the fraction of blue in each whole recipe (blue and white paint) and then select the mix with the least portion of blue in it out of the four mixes.

Mix	K	L	M	N
Cups of blue paint	1	4	5	2
Total cups of paint	(1+8)	(4+4)	(5+7)	(2+6)
Fraction of blue paint	1/9	4/8	5/12	2/8

Now that you have the fraction of paing or each mix, convert the fraction of blue paint to a decimal to make them easier to compare. Then select the mix with the least portion of blue paint in it.

Mix	K	L	M	N
Cups of blue paint	1	4	5	2
Total cups of paint	(1+8)	(4+4)	(5+7)	(2+6)
Fraction of blue paint	1/9	4/8	5/12	2/8
Fraction of blue paint	.11	.50	.42	.47

Since mix K has the smallest fraction of blue paint, mix K will be the lightest shade of blue.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

The Art teacher Ms. Lively was mixing purple and white paint together to make a lighter shade of purple paint.
Here are the different mixes she made:

Mix K: 1 cup purple and 5 cups white
Mix L: 2 cups purple and 7 cups white
Mix M: 5 cups purple and 8 cups white
Mix N: 4 cups purple and 11 cups white

Which mix will be the **lightest color of purple?**

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is mix K. Please enter K

Comment on this hint

Select one:

- K
- L
- M
- N

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25561

Assistment

You are previewing content.
The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Suppose you make a single batch of Mix L. What **fraction of the total cups** of paint in the batch is **red paint**?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

The Art teacher Mr. Jones was mixing blue and white paint together to make a lighter shade of blue paint.

Here are the different mixes he made:

Mix K: 1 cup blue and 8 cups white
Mix L: 4 cups blue and 6 cups white
Mix M: 5 cups blue and 7 cups white
Mix N: 2 cups blue and 6 cups white

Suppose you make a single batch of Mix N. What **fraction of the total cups** of paint in the batch is **blue paint**?

Solution:

Since we are looking for the fraction of blue paint in the mix, we need the fraction Part/Whole.

The part in this problem is the number of cups of blue paint in the mix and the whole is the total number of cups of paint in the mix.

That fraction is number of cups of blue paint/total number of cups of paint = 4/10.

Remember to use the total number of cups of paint for the whole, not just the number of white cups.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Suppose you make a single batch of Mix L. What **fraction of the total cups** of paint in the batch is **red paint**?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 1/5. Please enter 1/5

Comment on this hint

Type your answer below (mathematical expression):

- 1/5

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25563

Assistment

You are previewing content.

The Art teacher Ms. Lively was mixing red and white paint together to make a lighter shade of red paint. Here are the different mixes she made:

Mix K: 1 cup red and 5 cups white
Mix L: 2 cups red and 7 cups white
Mix M: 5 cups red and 8 cups white
Mix N: 4 cups red and 11 cups white

Suppose you make a single batch of Mix N. What **fraction of the total cups** of paint in the batch is **red paint**?

Comment on this question

We are looking for the fraction Part/Whole.

Comment on this hint

The part is the number of purple cups, and the whole is the total number of cups.

Comment on this hint

That fraction is number of purple cups/total number of cups = 4/15.

Comment on this hint

Type your answer below (mathematical expression):

- 4/15

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25565

Assistment

You are previewing content.

The Art teacher Ms. Lively was mixing purple and white paint together to make a lighter shade of purple paint.
Here are the different mixes she made:

Mix K: 1 cup red and 5 cups white
Mix L: 2 cups red and 7 cups white
Mix M: 5 cups red and 8 cups white
Mix N: 4 cups red and 11 cups white

Suppose you make a single batch of Mix N. What **fraction of the total cups** of paint in the batch is **red paint**?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

The Art teacher Mr. Jones was mixing blue and white paint together to make a lighter shade of blue paint.

Here are the different mixes he made:

Mix K: 1 cup blue and 8 cups white
Mix L: 4 cups blue and 6 cups white
Mix M: 5 cups blue and 7 cups white
Mix N: 2 cups blue and 6 cups white

Suppose you make a single batch of Mix L. What **fraction of the total cups** of paint in the batch is **blue paint**?

Solution:

Since we are looking for the fraction of blue paint in the mix, we need the fraction Part/Whole.

The part in this problem is the number of cups of blue paint in the mix and the whole is the total number of cups of paint in the mix.

That fraction is number of cups of blue paint/total number of cups of paint = 4/10.

Remember to use the total number of cans of paint for the whole, not just the number of white cans.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

The Art teacher Ms. Lively was mixing purple and white paint together to make a lighter shade of purple paint.
Here are the different mixes she made:

Mix K: 1 cup red and 5 cups white
Mix L: 2 cups red and 7 cups white
Mix M: 5 cups red and 8 cups white
Mix N: 4 cups red and 11 cups white

Suppose you make a single batch of Mix N. What **fraction of the total cups** of paint in the batch is **red paint**?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 4/15. Please enter 4/15.

Comment on this hint

Type your answer below (mathematical expression):

- 4/15

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #25567

Assistment

You are previewing content.
The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Suppose you make a single batch of Mix L.
What **percent of the total number of cups** in the batch is **red** paint?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

The Art teacher Mr. Jones was mixing blue and white paint together to make a lighter shade of blue paint.

Here are the different mixes he made:

Mix K: 1 cup blue and 8 cups white
Mix L: 4 cups blue and 6 cups white
Mix M: 5 cups blue and 7 cups white
Mix N: 2 cups blue and 6 cups white

Suppose you make a single batch of Mix L. What **percent of the total cups** of paint in the batch is **blue paint**?

Solution:

Since we are looking for the fraction of blue paint in the mix, we need the fraction Part/Whole.

The part in this problem is the number of cups of blue paint in the mix and the whole is the total number of cups of paint in the mix.

That fraction is number of cups of blue paint/total number of cups of paint = 4/10.

Now we need to change the fraction to a percentage.

4/10 = .40 = 40%.

Remember to use the total number of cups of paint for the whole, not just the number of white cups.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Suppose you make a single batch of Mix L.
What **percent of the total number of cups** in the batch is **red** paint?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is 20. Type in 20

Comment on this hint

Type your answer below (mathematical expression):

- 20

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25571

Assistment

You are previewing content.

The Art teacher Ms. Lively was mixing purple and white paint together to make a lighter shade of purple paint.
Here are the different mixes she made:

Mix K: 1 cup purple and 5 cups white
Mix L: 3 cups purple and 7 cups white
Mix M: 5 cups purple and 8 cups white
Mix N: 4 cups purple and 11 cups white

Suppose you make a single batch of Mix L.

What **percent of the total number of cups** in the batch is **purple** paint?

Round to the nearest whole number.

Comment on this question
To find the percentage, We need the fraction Part/Whole.
Comment on this hint
The part is the number of purple cups and the whole is the total number of cups.
Comment on this hint

That fraction is the number of purple cups/total number of cups = 3/10.

Comment on this hint

Now you need to change the fraction to a percentage

Comment on this hint

3/10 = .30 = 30%. Please enter 30.

Comment on this hint
Type your answer below (mathematical expression):

- 30

Submit Answer
Correct!
You are done with this problem!
Comment on this problem

Assistment #25576

Assistment

You are previewing content.

The Art teacher Ms. Lively was mixing purple and white paint together to make a lighter shade of purple paint.
Here are the different mixes she made:

Mix K: 1 cup purple and 5 cups white
Mix L: 3 cups purple and 7 cups white
Mix M: 5 cups purple and 8 cups white
Mix N: 4 cups purple and 11 cups white

Suppose you make a single batch of Mix L. What **fraction of the total cups** of paint in the batch is **purple paint**?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

The Art teacher Mr. Jones was mixing blue and white paint together to make a lighter shade of blue paint.

Here are the different mixes he made:

Mix K: 1 cup blue and 8 cups white
Mix L: 4 cups blue and 6 cups white
Mix M: 5 cups blue and 7 cups white
Mix N: 2 cups blue and 6 cups white

Suppose you make a single batch of Mix L. What **percent of the total cups** of paint in the batch is **blue paint**?

Solution:

Since we are looking for the fraction of blue paint in the mix, we need the fraction Part/Whole.

The part in this problem is the number of cups of blue paint in the mix and the whole is the total number of cups of paint in the mix.

That fraction is number of cups of blue paint/total number of cups of paint = 4/10.

Now we need to change the fraction to a percentage.

4/10 = .40 = 40%.

Remember to use the total number of cups of paint for the whole, not just the number of cups of white paint.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

The Art teacher Ms. Lively was mixing purple and white paint together to make a lighter purple paint. Here are the different mixes she made:

Mix K: 1 cup purple and 5 cups white
Mix L: 3 cups purple and 7 cups white
Mix M: 5 cups purple and 8 cups white
Mix N: 4 cups purple and 11 cups white

Suppose you make a single batch of Mix L. What **percent of the total cups** of paint in the batch is **purple paint**?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 30%. Please enter 30.

Comment on this hint

Type your answer below (mathematical expression):

- 30

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25580

Assistment

You are previewing content.

In the after school program at the local elementary school there were three rooms of kids.
The red room, the Green room and the Yellow room.

There were 9 kids in the Red room and they got to share 4 big chocolate bars.
There were 11 kids in the Green room and they shared 5 big chocolate bars.
There were 15 kids in the Yellow room and they got to share 7 big chocolate bars.

The chocolate bars in each room were shared equally.

In which room did the kids get the most chocolate?

Comment on this question

Request Help

Select one:

- The Yellow Room
- The Green Room
- The Red Room

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

In the after school program at the local elementary school there were three rooms of kids.
The Blue room, the Orange room, and the Purple room.
There were 14 kids in the Blue room and they got to share 3 bags of marshmallows.
There were 8 kids in the Orange room and they shared 2 bags of marshmallows
There were 18 kids in the Yellow room and they got to share 4 bags of marshmallows.
The bags of marshmallows in each room were shared equally.
In which room did the kids get the most marshmallows?

Solution:

Two ways to solve this problem are either to set up ratios of kids to bags of marshmallows OR bags of marshmallows to kids.

Rooms	Blue	Orange	Purple
Number of Kids	14	8	18
Bags of Marshmallows	3	2	4
Kids / Bags	14/3	8/2	18/4
Bags / Kids	3/14	2/8	4/18

Here are the ratios as fractions for the two ways to solve the problem. Since the fractions have different denominators you should change them to decimals and then determine your answer. (You only need to consider one of these ways)

Rooms	Blue	Orange	Purple
Number of Kids	14	8	18
Bags of Marshmallows	3	2	4
Kids / Bags	14/3 = 4.6	8/2 = 4.0	18/4 = 4.5
Bags / Kids	3/14 = .21	2/8 = .25	4/18 = .22

Since there are 4.0 kids per bag of marshmallows in the Orange Room, the Orange Room has the smallest

number of kids per bag of marshmallows so the kids get the most marshmallows.

Or

you could say there are .25 bags of marshmallows per kid in the Orange room which is the most bags of marshmallows per kid so that is the room where the kids get the most marshmallows.

In either case, the answer is the Orange Room.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

In the after school program at the local elementary school there were three rooms of kids.
The red room, the Green room and the Yellow room.

There were 9 kids in the Red room and they got to share 4 big chocolate bars.
There were 11 kids in the Green room and they shared 5 big chocolate bars.
There were 15 kids in the Yellow room and they got to share 7 big chocolate bars.

The chocolate bars in each room were shared equally.

In which room did the kids get the most chocolate?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is the Yellow Room.

Comment on this hint

Select one:

- The Yellow Room
- The Red Room
- The Green Room

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25671

Assistment

You are previewing content.

In the after school program at the local elementary school there were three rooms of kids.
The Brown room, the Red room and the Pink room.

There were 8 kids in the Brown room and they got to share 3 boxes of animal crackers.
There were 14 kids in the Red room and they shared 6 boxes of animal crackers.
There were 20 kids in the Pink room and they got to share 11 boxes of animal crackers.

The boxes of animal crackers in each room were shared equally.

In which room did the kids get the most animal crackers?

Comment on this question

Two ways to solve this problem are either to set up ratios of kids to boxes of animal crackers OR boxes of animal crackers to kids. Pick one way and find the ratios and compare them to determine the room in which the kids get the most animal crackers.

Comment on this hint

Room	Brown	Red	Pink
Number of Kids	8	14	20
Number of boxes of animal crackers	3	6	11
Kids / Boxes	8/3	14/6	20/11
Boxes / Kids	3/8	6/14	11/20

Here are the ratios as fractions for the two ways to solve the problem. Since the fractions have different denominators you should change them to decimals and then determine your answer. (You only need to consider one of these ways)

Comment on this hint

Room	Brown	Red	Pink
Number of Kids	8	14	20

Number of boxes of animal crackers	3	6	11
Kids / Boxes	8/3 = 2.67	14/6 = 2.33	20/11 = 1.82
Boxes / Kids	3/8 = .38	6/14 = .43	11/20 = .55

Now all the fractions are in decimals. In which room do the kids get the most animal crackers?

Comment on this hint

Since there are 1.82 kids per box of animal crackers in the Pink Room, the Pink Room has the smallest number of kids per box of animal crackers so the kids get the most animal crackers.

Or

you could say there are .55 boxes of animal crackers per kid in the Pink room which is the most boxes of animal crackers per kid so that is the room where the kids get the most animal crackers.

In either case, the answer is the Pink Room, select the Pink Room.

Comment on this hint

Select one:

- The Brown Room
- The Red Room
- The Pink Room

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25723

Assistment

You are previewing content.

In the after school program at the local elementary school there were three rooms of kids.
The Brown room, the Red room and the Pink room.

There were 8 kids in the Brown room and they got to share 3 boxes of animal crackers.
There were 14 kids in the Red room and they shared 6 boxes of animal crackers.
There were 20 kids in the Pink room and they got to share 11 boxes of animal crackers.

The boxes of animal crackers in each room were shared equally.

In which room did the kids get the most animal crackers?

Comment on this question

Request Help

Select one:

- The Brown Room
- The Red Room
- The Pink Room

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

In the after school program at the local elementary school there were three rooms of kids.
The Blue room, the Orange room, and the Purple room.
There were 14 kids in the Blue room and they got to share 3 bags of marshmallows.
There were 8 kids in the Orange room and they shared 2 bags of marshmallows
There were 18 kids in the Yellow room and they got to share 4 bags of marshmallows.
The bags of marshmallows in each room were shared equally.
In which room did the kids get the most marshmallows?

Solution:

Two ways to solve this problem are either to set up ratios of kids to bags of marshmallows OR bags of marshmallows to kids.

Rooms	Blue	Orange	Purple
Number of Kids	14	8	18
Bags of Marshmallows	3	2	4
Kids / Bags	14/3	8/2	18/4
Bags / Kids	3/14	2/8	4/18

Here are the ratios as fractions for the two ways to solve the problem. Since the fractions have different denominators you should change them to decimals and then determine your answer. (You only need to consider one of these ways)

Rooms	Blue	Orange	Purple
Number of Kids	14	8	18
Bags of Marshmallows	3	2	4
Kids / Bags	14/3 = 4.6	8/2 = 4.0	18/4 = 4.5
Bags / Kids	3/14 = .21	2/8 = .25	4/18 = .22

Since there are 4.0 kids per bag of marshmallows in the Orange Room, the Orange Room has the smallest

number of kids per bag of marshmallows so the kids get the most marshmallows.

Or

you could say there are .25 bags of marshmallows per kid in the Orange room which is the most bags of marshmallows per kid so that is the room where the kids get the most marshmallows.

In either case, the answer is the Orange Room.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

In the after school program at the local elementary school there were three rooms of kids.
The Brown room, the Red room and the Pink room.

There were 8 kids in the Brown room and they got to share 3 boxes of animal crackers.
There were 14 kids in the Red room and they shared 6 boxes of animal crackers.
There were 20 kids in the Pink room and they got to share 11 boxes of animal crackers.

The boxes of animal crackers in each room were shared equally.

In which room did the kids get the most animal crackers?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is the Pink Room.

Comment on this hint

Select one:

- The Brown Room
- The Red Room
- The Pink Room

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25777

Assistment

You are previewing content.
The machines at a factory can fill soda bottles at a rate of 330 sodas every 15 minutes. If you were to fill out this rate table, what value would go into the shaded box?

Number of minutes	15	30	45	60	75	90	105	120	135	150
Number of bottles	330									

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

The machines at a factory can fill a boxes of animal crackers at a rate of 220 boxes every 20 minutes. If you were to fill out this rate table, what value would go into the shaded box?

Number of minutes	20	40	60	80	100	120	140	160	180	200
Number of boxes	220									

Solution:

In order to find out what should go in the shaded box, we need to work our way across the table.

First we need to know how many boxes are fillled in 40 minutes.

That amount is 220 + 220 = 440 boxes of animal crackers.

For 60 minutes, the amount is 400 + 220 = 660 boxes of animal crackers.

Continue to add 220 boxes for each 20 minutes.

Number of minutes	20	40	60	80	100	120	140	160	180	200
Number of boxes	220	440	660	880	1100	1320	1540	1760	1980	2200

After 220 minutes we get 2200 boxes of animal crackers.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

The machines at a factory can fill soda bottles at a rate of 330 sodas every 15 minutes. If you were to fill out this rate table, what value would go into the shaded box?

Number of minutes	15	30	45	60	75	90	105	120	135	150
Number of bottles	330									

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 3300 boxes of animal crackers. Please enter 3300.

Comment on this hint

Type your answer below (mathematical expression):

- 3300

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25778

Assistment

You are previewing content.

The machines at a factory can fill jars of peanut butter at a rate of 550 jars every 45 minutes. If you were to fill out this rate table, what value would go into the shaded box?

Number of minutes	45	90	135	180	225	270	315	360	405	450
Number of boxes	550									

Comment on this question

Start by drawing the table on your own. It should look like this.

Number of minutes	45	90	135	180	225	270	315	360	405	450
Number of boxes	550									

Comment on this hint

Now use what you know to fill in how many jars the factory can fill in 90 minutes.

Comment on this hint

In 90 minutes the machine can fill 550 + 550 = 1100 jars. In 135 minutes the machine can fill 1100 + 550 = 1650 jars. Continue adding 550 jars for each 45 minutes added on in the table.

Comment on this hint

Number of minutes	45	90	135	180	225	270	315	360	405	450
Number of boxes	550	1100	1650	2200	2750	3300	3850	4400	4950	5500

In 450 minutes, the machine can fill 5500 jars of peanut butter.

Comment on this hint

Type your answer below (mathematical expression):

- 5500

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25780

Assistment

You are previewing content.

The machines at a factory can fill jars of peanut butter at a rate of 550 jars every 45 minutes. If you were to fill out this rate table, what value would go into the shaded box?

Number of minutes	45	90	135	180	225	270	315	360	405	450
Number of boxes	550									

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

The machines at a factory can fill a boxes of animal crackers at a rate of 220 boxes every 20 minutes. If you were to fill out this rate table, what value would go into the shaded box?

Number of minutes	20	40	60	80	100	120	140	160	180	200
Number of boxes	220									

Solution:

In order to find out what should go in the shaded box, we need to work our way across the table.

First we need to know how many boxes are fillled in 40 minutes.

That amount is 220 + 220 = 440 boxes of animal crackers.

For 60 minutes, the amount is 400 + 220 = 660 boxes of animal crackers.

Continue to add 220 boxes for each 20 minutes.

Number of minutes	20	40	60	80	100	120	140	160	180	200
Number of boxes	220	440	660	880	1100	1320	1540	1760	1980	2200

After 220 minutes we get 2200 boxes of animal crackers.

Comment on this question

Select one:

- I have read the correct answer and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

The machines at a factory can fill jars of peanut butter at a rate of 550 jars every 45 minutes. If you were to fill out this rate table, what value would go into the shaded box?

Number of minutes	45	90	135	180	225	270	315	360	405	450
Number of boxes	550									

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 5500 jars of peanut butter. Please enter 5500.

Comment on this hint

Type your answer below (mathematical expression):

- 5500

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25781

Assistment

You are previewing content.
Ben's dog can eat 5 bags of dog food in 24 days, Sandy's dog can eat 8 bags of dog food in 42 days, Jill's dog eats 3 bags of dog food in 12 days, and Bennett's dog eats 11 bags of dog food in 50 days. Which dog eats the most dog food on average?

Comment on this question

Request Help

Select one:

- Ben's dog
- Sandy's dog
- Jill's dog
- Bennett's dog

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

Teresa's cat can eat 7 bags of cat food in 22 days, Chris's cat can eat 9 bags of cat food in 26 days, Matt's cat eats 3 bags of cat food in 14 days, and Jackie's cat eats 11 bags of cat food in 50 days. Which cat eats the most cat food on average?

Solution:

The first thing we need to do is figure out the average amount each dog eats in 1 day.

To do this, divide the amount of bags the dog eats by the number of days it takes to eat those bags. Bags/Days = Amount of bags per day.

Teresa's cat -	7 bags / 22 days	= .32 bags/day
Chris's cat -	9 bags / 26 days	= .35 bags/day
Matt's cat -	3 bags / 14 days	= .21 bags/day
Jackie's cat -	11 bags / 50 days	= .22 bags/day

Since Chris's cat has eaten .32 bags/day on average and this is larger that the amount eaten by the other cats on average the answer is Chris's cat.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Ben's dog can eat 5 bags of dog food in 24 days, Sandy's dog can eat 8 bags of dog food in 42 days, Jill's dog eats 3 bags of dog food in 12 days, and Bennett's dog eats 11 bags of dog food in 50 days. Which dog eats the most dog food on average?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct ansewr is Jill's dog. Please select Jill's dog.

Comment on this hint

Select one:

- Ben's dog
- Sandy's dog
- Jill's dog
- Bennett's dog

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25787

Assistment

You are previewing content.

Dylan's rabbit can eat 5 bags of rabbit food in 22 days, James's rabbit can eat 9 bags of rabbit food in 36 days, Kyle's rabbit eats 6 bags of rabbit food in 31 days, and Kimberly's rabbit eats 13 bags of rabbit food in 50 days. Which rabbit eats the most rabbit food on average?

Comment on this question

First figure out the average amount each rabbit eats in 1 day because it is not easy to compare how much each rabbit eats right now.

Comment on this hint

To do this, divide the amount of bags the rabbit eats by the number of days it takes to eat those bags. Bags/Days = Amount of bags per day.

Comment on this hint

Dylan's rabbit -	5 bags / 22 days	= .23 bags/day
James' rabbit -	9 bags / 36 days	= .25 bags/day
Kyle's rabbit -	6 bags / 31 days	= .19 bags/day
Kimberly's rabbit -	13 bags / 50 days	= .26 bags/day

Now determine which dog has eaten the most each day.

Comment on this hint

Since Kimberly's rabbit has eaten .26 bags/day on average and this is larger that the amount eaten by the other rabbits on average the answer is Kimberly's rabbit. Please select this answer.

Comment on this hint

Select one:

- Dylan's rabbit
- James's rabbit
- Kyle's rabbit
- Kimberly's rabbit

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25790

Assistment

You are previewing content.
Dylan's rabbit can eat 5 bags of rabbit food in 22 days, James' rabbit can eat 9 bags of rabbit food in 36 days, Kyle's rabbit eats 6 bags of rabbit food in 31 days, and Kimberly's rabbit eats 13 bags of rabbit food in 50 days. Which rabbit eats the most rabbit food on average?

Comment on this question

Request Help

Select one:

- Dylan's rabbit
- James' rabbit
- Kyle's rabbit
- Kimberly's rabbit

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

Teresa's cat can eat 7 bags of cat food in 22 days, Chris's cat can eat 9 bags of cat food in 26 days, Matt's cat eats 3 bags of cat food in 14 days, and Jackie's cat eats 11 bags of cat food in 50 days. Which cat eats the most cat food on average?

Solution:

The first thing we need to do is figure out the average amount each dog eats in 1 day.

To do this, divide the amount of bags the dog eats by the number of days it takes to eat those bags. Bags/Days = Amount of bags per day.

Teresa's cat -	7 bags / 22 days	= .32 bags/day
Chris's cat -	9 bags / 26 days	= .35 bags/day
Matt's cat -	3 bags / 14 days	= .21 bags/day
Jackie's cat -	11 bags / 50 days	= .22 bags/day

Since Chris's cat has eaten .32 bags/day on average and this is larger that the amount eaten by the other cats on average the answer is Chris's cat.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Dylan's rabbit can eat 5 bags of rabbit food in 22 days, James' rabbit can eat 9 bags of rabbit food in 36 days, Kyle's rabbit eats 6 bags of rabbit food in 31 days, and Kimberly's rabbit eats 13 bags of rabbit food in 50 days. Which rabbit eats the most rabbit food on average?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is Kimberly's rabbit. Please select Kimberly's rabbit

Comment on this hint

Select one:

- Dylan's rabbit
- James' rabbit
- Kyle's rabbit
- Kimberly's rabbit

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25810

Assistment

You are previewing content.
A store has a sale on socks. 3 Pairs of socks for $6.90 (you can buy one pair of socks for the one third the sale price). If you have $10, how many pairs of socks can you buy?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

A store has a sale on shoes. 3 Pairs of shoes for $36.90 (you can buy one pair of shoes for the one third the sale price). If you have $50, how many pairs of shoes can you buy?

Solution:

The first thing we need to do is figure out how much it costs for one pair of shoes.

To do this, divide the cost for 3 pairs of shoes by the number of pairs for the price. $36.90/3 = $12.30 for each pair of shoes.

Now figure out how many pairs of shoes you can buy with $50 at $12.30 per pair.

To do this, divide the amount of money you have by the cost for each pair of shoes. $50/$12.30 dollars = 4.07 pairs.

Since we cannot buy a fraction of a pair of shoes, the answer is 4 pairs of shoes.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

A store has a sale on socks. 3 Pairs of socks for $6.90 (you can buy one pair of socks for the one third the sale price). If you have $10, how many pairs of socks can you buy?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 4 pairs of socks. Please enter 4.

Comment on this hint

Type your answer below (mathematical expression):

- 4

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25811

Assistment

You are previewing content.
A store has a sale on gloves. 5 Pairs of gloves for $5.80 (you can buy one pair of gloves for the one fifth the sale price). If you have $20, how many pairs of gloves can you buy?

Comment on this question

First you should figure out how much it costs for one pair of gloves.

Comment on this hint

To do this, divide the cost for 5 pairs of gloves by the number of pairs for the price. $5.80/5 = $1.16 for each pair of gloves.

Comment on this hint

Now figure out how many pairs of socks you can buy with $20 at $1.16 per pair.

Comment on this hint

To do this, divide the amount of money you have by the cost for each pair of gloves. $20/$1.16 dollars = 17.24 pairs

Comment on this hint

Remember that pairs of gloves can only be bought in whole amounts, you can't buy .24 pair of gloves.

Comment on this hint

You can buy 17 pairs of gloves. Please enter 17.

Comment on this hint

Type your answer below (mathematical expression):

- 17

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25812

Assistment

You are previewing content.
A store has a sale on gloves. 5 Pairs of gloves for $5.80 (you can buy one pair of gloves for the one fifth the sale price). If you have $20, how many pairs of gloves can you buy?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

A store has a sale on shoes. 3 Pairs of shoes for $36.90 (you can buy one pair of shoes for the one third the sale price). If you have $50, how many pairs of shoes can you buy?

Solution:

The first thing we need to do is to figure out how much it costs for one pair of shoes.

To do this, divide the cost for 3 pairs of shoes by the number of pairs for the price. $36.90/3 = $12.30 for each pair of shoes.

Now figure out how many pairs of shoes you can buy with $50 at $12.30 per pair.

To do this, divide the amount of money you have by the cost for each pair of shoes. $50/$12.30 dollars = 4.07 pairs.

Since we cannot buy a fraction of a pair of shoes, the answer is 4 pairs of shoes.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

A store has a sale on gloves. 5 Pairs of gloves for $5.80 (you can buy one pair of gloves for the one fifth the sale price). If you have $20, how many pairs of gloves can you buy?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is 17 pairs of gloves. Please enter 17.

Comment on this hint

Type your answer below (mathematical expression):

- 17

Submit Answer

Correct!

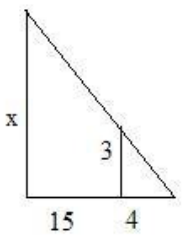
You are done with this problem!

Comment on this problem

Assistment #25886

Assistment

You are previewing content.
Which proportion can be used to calculate x?



$A: \frac{x}{15} = \frac{3}{4}$ $C: \frac{x}{3} = \frac{19}{4}$

$B: \frac{15}{4} = \frac{3}{x}$ $D: \frac{x}{19} = \frac{4}{3}$

Comment on this question

Request Help

Select one:

- A
- B
- C
- D

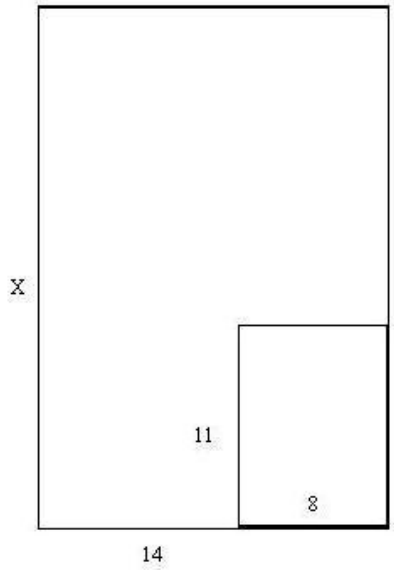
Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

Assuming that these two rectangles are simmilar. Which proportion can be used to calculate x?

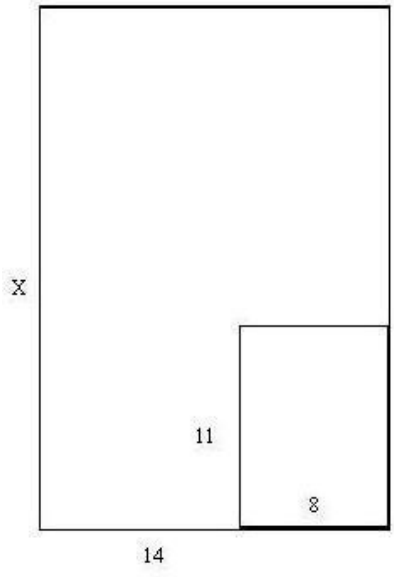


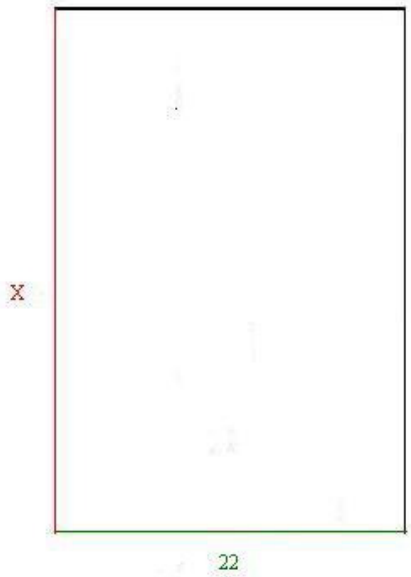
$A: \frac{x}{14} = \frac{11}{8}$ $C: \frac{14}{8} = \frac{11}{x}$

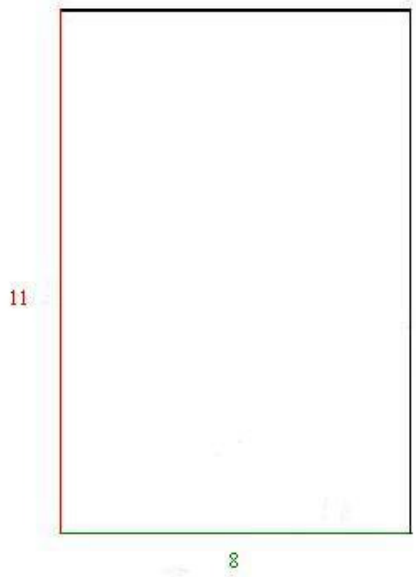
$B: \frac{x}{22} = \frac{8}{14}$ $D: \frac{x}{8} = \frac{11}{22}$

Solution:

One way to solve is problem is by process of elimination. First separate the rectangles, the colored sides correspond on each rectangle.







Choice A looks OK because corresponding sides are next to each other in the equation:

$$\frac{x \rightarrow 11}{14 \rightarrow 8}$$

but 14 is not the length of the bottom side of the big rectangle, so it cannot be correct.

This also goes for Choice C.

Choice C also cannot be correct because corresponding sides are not opposite each other in the equation:

$$\frac{x \rightarrow 8 \ \ instead\ of\ 11}{22 \rightarrow 14\ instead\ of\ \ 8}$$

So Choice D is the correct proportion. Three other correct proportions are:

$$\frac{x}{22}=\frac{11}{8},\quad \frac{22}{x}=\frac{8}{11},\ and\ \ \frac{8}{11}=\frac{22}{x}$$

Comment on this question

Select one:

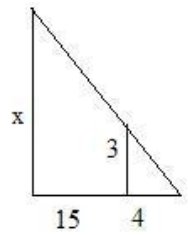
- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Which proportion can be used to calculate x?



$$A:\frac{x}{15}=\frac{3}{4} \qquad C:\frac{x}{3}=\frac{19}{4}$$

$$B:\frac{15}{4}=\frac{3}{x} \qquad D:\frac{x}{19}=\frac{4}{3}$$

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is Choice C. Please select C.

Comment on this hint

Select one:

- A
- B
- C
- D

Submit Answer

Correct!

You are done with this problem!

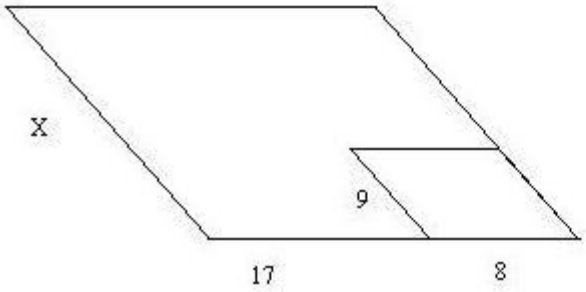
Comment on this problem

Assistment #25887

Assistment

You are previewing content.

Assuming the two parallelograms are similar, which proportion can be used to calculate x?

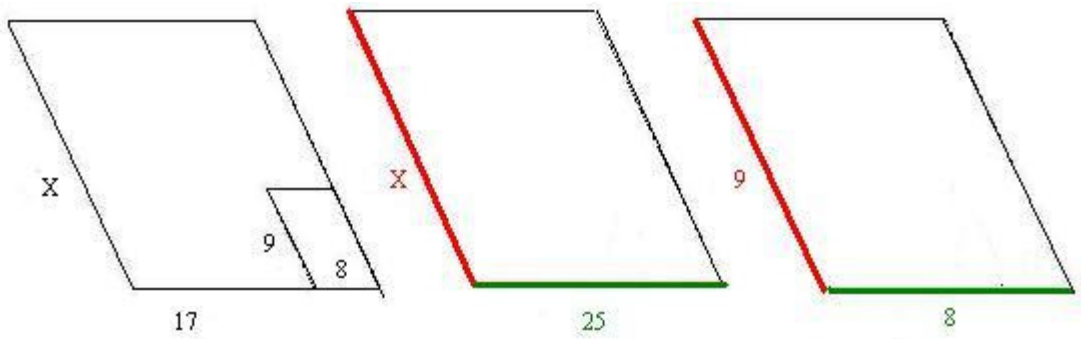


$A: \frac{x}{9} = \frac{25}{8}$ $C: \frac{x}{8} = \frac{17}{9}$

$B: \frac{x}{9} = \frac{17}{8}$ $D: \frac{25}{x} = \frac{9}{8}$

Comment on this question

Here is a picture of the parallelograms separated. The red side of the big parallelogram corresponds to the red side of the little parallelogram and the green side of the large parallelogram corresponds to the green side of the small parallelogram.



Comment on this hint

Choice B looks OK because corresponding side are next to each other in the equation

$$\frac{x \to 9}{17 \to 8}$$

but 17 is not the length of the green side of the big parallelogram, so it cannot be the correct answer.

Comment on this hint

Choice C also has 17 in it, so it cannot be right either.

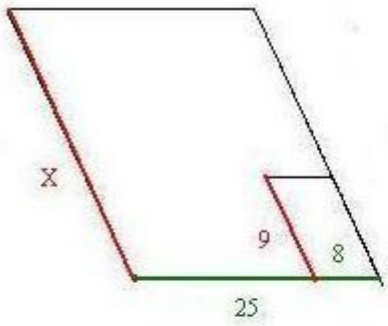
Comment on this hint

Choice D does not have corresponding sides placed opposite of each other in the equation, so it is wrong as well.

$$\frac{x \rightarrow 8 \ instead \ of \ 9}{25 \rightarrow 9 \ instead \ of \ 8}$$

Comment on this hint

Choice A is the corect answer.



The corresponding sides match in the equation

$$\frac{X}{9} = \frac{25}{8}$$

Three other correct answers are:

$$\frac{9}{X} = \frac{8}{25} \qquad \frac{25}{8} = \frac{X}{9} \qquad \frac{8}{25} = \frac{9}{X}$$

Comment on this hint

Select one:

- A
- B
- C
- D

Submit Answer

Correct!

You are done with this problem!

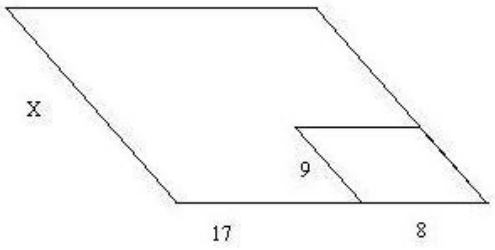
Comment on this problem

Assistment #25929

Assistment

You are previewing content.

Assuming that the two parallelograms are similar, which proportion can be used to calculate x?



$A: \frac{x}{9} = \frac{25}{8}$ $C: \frac{x}{8} = \frac{17}{9}$

$B: \frac{x}{9} = \frac{17}{8}$ $D: \frac{25}{x} = \frac{9}{8}$

Comment on this question

Request Help

Select one:

- A
- B
- C
- D

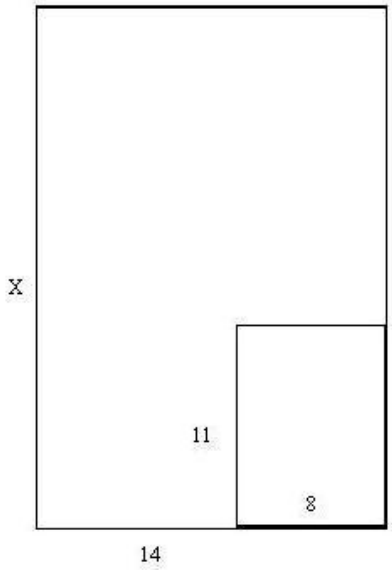
Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

Assuming that the two rectangles are simmilar, which proportion can be used to calculate x?

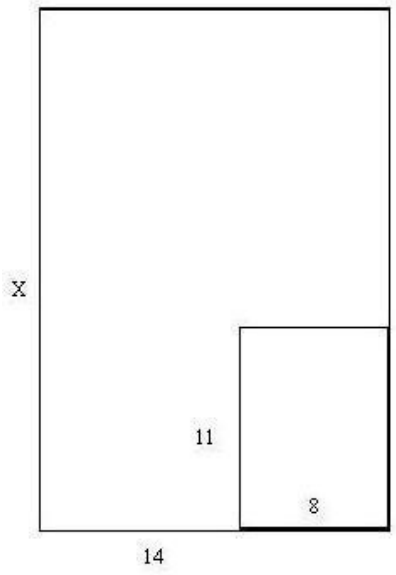


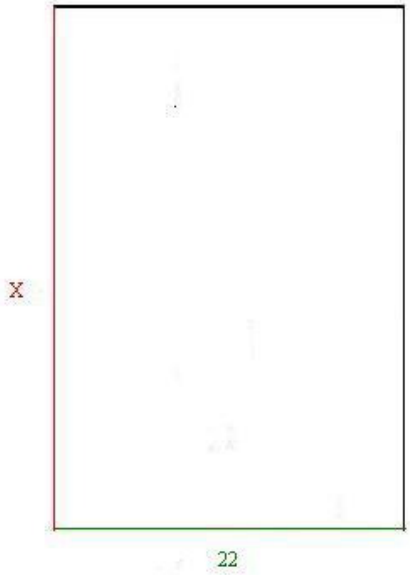
$$A: \frac{x}{14} = \frac{11}{8} \qquad C: \frac{14}{8} = \frac{11}{x}$$

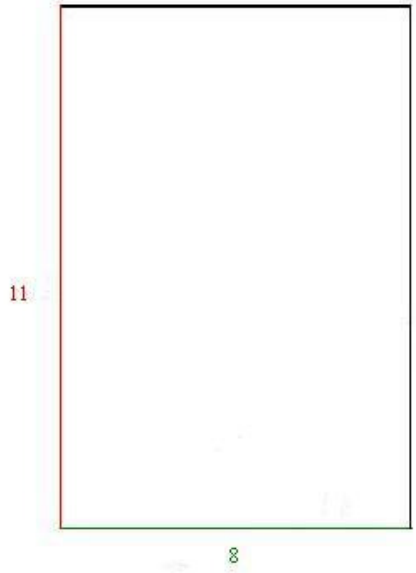
$$B: \frac{x}{22} = \frac{8}{14} \qquad D: \frac{x}{8} = \frac{11}{22}$$

Solution:

One way to solve is problem is by process of elimination. First separate the rectangles, the colored sides correspond on each rectangle.







Choice A looks OK because corresponding sides are next to each other in the equation:

$$\frac{x \rightarrow 11}{14 \rightarrow 8}$$

but 14 is not the length of the bottom side of the big rectangle, so it cannot be correct.

This also goes for Choice C.

Choice C also cannot be correct because corresponding sides are not opposite each other in the equation:

$$\frac{x \rightarrow 8 \ \ instead\ of\ 11}{22 \rightarrow 14\ instead\ of\ \ 8}$$

So Choice D is the correct proportion. Three other correct proportions are:

$$\frac{x}{22}=\frac{11}{8},\ \ \frac{22}{x}=\frac{8}{11},\ \ and\ \ \frac{8}{11}=\frac{22}{x}$$

Comment on this question

Select one:

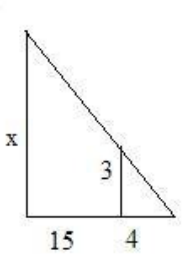
- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Which proportion can be used to calculate x?



$$A:\frac{x}{15}=\frac{3}{4} \qquad C:\frac{x}{3}=\frac{19}{4}$$

$$B:\frac{15}{4}=\frac{3}{x} \qquad D:\frac{x}{19}=\frac{4}{3}$$

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is choice A. Please select A.

Comment on this hint

Select one:

- A
- B
- C

- D

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25932

Assistment

You are previewing content.
Apples are on sale. You can buy 5 apples for $2. How much will it cost for 36 apples?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

Oranges are on sale. You can buy 4 oranges for $3. How much will it cost for 35 oranges?

Solution:

One way to solve this problem is to let the variable x represent the the cost of 35 oranges and set up a proportion.

If you set up a proportion it will look like this:

$$\frac{3}{4} = \frac{x}{35}$$

To find x, first you must determine the number you multiply by 4 to get 35.

$$\frac{3*\square}{4*\square}=\frac{x}{35}$$

Since 35 divided by 4 is 8.75, we know that 4*8.75=35. so we have:

$$\frac{3*8.75}{4*8.75}=\frac{x}{35}$$

Now we can find x by multiplying the numerator 3 by 8.75 to get 26.25. $26.25 is the cost of 35 apples.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Apples are on sale. You can buy 5 apples for $2. How much will it cost for 36 apples?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is $14.40. Please enter 14.4

Comment on this hint

Type your answer below (mathematical expression):

- 14.4

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment #25933

Assistment

You are previewing content.
Bananas are on sale. You can buy 8 bananas for $5. How much will it cost for 38 bananas?

Comment on this question

One way to solve this problem is to let the variable x represent the the cost of 38 bananas and set up a proportion

Comment on this hint

If you set up a proportion it will look like this:

$$\frac{3}{8} = \frac{x}{38}$$

Comment on this hint

$$\frac{3 * \square}{8 * \square} = \frac{x}{38}$$

To find x, first you must determine the number you multiply by 8 to get 38.

Comment on this hint

Since 38 divided by 8 is 4.75, we know that 8*4.75=38. so we have:

$$\frac{3 * 4.75}{8 * 4.75} = \frac{x}{38}$$

Now we can find x.

Comment on this hint

Now you must multiply the numerator 3 by 4.75 to get 14.25. $14.25 is the cost of 38 bananas, please enter 14.25

Comment on this hint

Type your answer below (mathematical expression):

- 14.25

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment #25934

Assistment

You are previewing content.
Bananas are on sale. You can buy 8 bananas for $5. How much will it cost for 38 bananas?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution to a problem **similar** to the one in the red box above.

Problem:

Oranges are on sale. You can buy 4 oranges for $3. How much will it cost for 35 oranges?

Solution:

One way to solve this problem is to let the variable x represent the the cost of 35 oranges and set up a proportion.

If you set up a proportion it will look like this:

$$\frac{3}{4} = \frac{x}{35}$$

To find x, first you must determine the number you multiply by 4 to get 35.

$$\frac{3*\square}{4*\square}=\frac{x}{35}$$

Since 35 divided by 4 is 8.75, we know that 4*8.75=35. so we have:

$$\frac{3*8.75}{4*8.75}=\frac{x}{35}$$

Now we can find x by multiplying the numerator 3 by 8.75 to get 26.25. $26.25 is the cost of 35 apples.

Comment on this question

Select one:

- I have read the example and now I am ready to try again.

Correct!

Now try the original problem again. You may look back at the worked example if that helps you.

Apples are on sale. You can buy 5 apples for $2. How much will it cost for 36 apples?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The correct answer is $14.25. Please enter 14.25.

Comment on this hint

Type your answer below (mathematical expression):

- 14.25

Submit Answer

Correct!

You are done with this problem!

Comment on this problem

Assistment

Assistment #12418

You are previewing content.

The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Which mix will be the **lightest color of pink?**

Comment on this question

The mix that will be the lightest shade of pink will be the mix with the lowest portion of red in it. One way to solve this problem is to find the fraction of red in each whole recipe (red and white paint) and then select the mix with the least portion of red in it out of the four mixes.

Comment on this hint

Mix	K	L	M	N
Cups of red paint	4	2	5	4
Total cups of paint	(4+5)	(2+8)	(5+9)	(4+8)
Fraction of red paint	4/9	2/10	5/14	4/12

Now that you have the fraction of paing or each mix, convert the fraction of red paint to a decimal to make them easier to compare. Then select the mix with the least portion of red paint in it.

Comment on this hint

Mix	K	L	M	N
Cups of red paint	4	2	5	4
Total cups of paint	(4+5)	(2+8)	(5+9)	(4+8)
Fraction of red paint	4/9	2/10	5/14	4/12
Fraction of red paint	0.444	0.2	0.357	0.333

In the chart above, each fraction of red paint in each mix has been converted into a decimal. The mix that will be the lightest pink, will have the least amount of red paint as a decimal in it.

Comment on this hint

Mix	K	L	M	N
Cups of red paint	4	2	5	4
Total cups of paint	(4+5)	(2+8)	(5+9)	(4+8)
Fraction of red paint	4/9	2/10	5/14	4/12
Fraction of red paint	0.444	0.2	0.357	0.333

Since L is the smallest fraction (determined by looking at the decimals) it must have the **least** amount of red compared to the whole, so it is the **lightest** pink color. Select L.

Comment on this hint

Select one:

- K
- L
- M
- N

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment

Assistment #12419

You are previewing content.

The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Suppose you make a single batch of Mix L. What **fraction of the total cups** of paint in the batch is **red paint**?

Comment on this question

Determine the total number of cups in the batch when the red and white paints are mixed together. Then determine what fraction of that batch is red paint.

Comment on this hint

There are 2 cups red paint and 8 cups white paint in the batch. Out of those 10 cups, 2 are red. This means 2/10 cups are red. Remember to reduce this to lowest terms.

Comment on this hint

The correct answer to the fraction of red paint in the pink paint mixture is 1/5. Please enter 1/5.

Comment on this hint

Type your answer below (mathematical expression):

- 1/5

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment

Assistment #12420

You are previewing content.
The Art teacher Mrs. Flinn was mixing red and white paint together to make pink paint.
Here are the different mixes she made:

Mix K: 4 cup red and 5 cups white
Mix L: 2 cups red and 8 cups white
Mix M: 5 cups red and 9 cups white
Mix N: 4 cups red and 8 cups white

Suppose you make a single batch of Mix L.
What **percent of the total number of cups** in the batch is **red** paint?
Comment on this question

The batch is a mixture of red and white paint. The number of cups in the batch is:

2 cups red + 8 cups red = 10 cups.

The number of cups of red paint is 2.

Now find the percent of the total number of cups in batch L that is red paint.

Comment on this hint
There are 2 cups red paint out of 10 cups red and white paint in the mixture. The fraction of red paint is 2/10.
Convert this fraction into a decimal and then a percentage.
Comment on this hint

2/10 converted to a decimal is 0.2.

Move the decimal two places to the right and add the percent sign to convert the decimal to a percent

0.20 = 20%. Therefore 20% of batch L is red.

Please enter 20.

Comment on this hint

Type your answer below:

- 20

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #12421

You are previewing content.

In the after school program at the local elementary school there were three rooms of kids.
The red room, the Green room and the Yellow room.
There were 9 kids in the Red room and they got to share 4 big chocolate bars.
There were 11 kids in the Green room and they shared 5 big chocolate bars.
There were 15 kids in the Yellow room and they got to share 7 big chocolate bars.
The chocolate bars in each room were shared equally.
In which room did the kids get the most chocolate?

Comment on this question

Two ways to solve this problem are either to set up ratios of kids to chocolate bars OR chocolate bars to kids. Pick one way and find the ratios and compare them to determine the room in which the kids get the most chocolate.

Comment on this hint

Room color	Red	Green	Yellow
Number of Kids	9	11	15
Chocolate Bars	4	5	7
Kids / Bars	9 / 4	11 / 5	15 / 7
Bars / Kids	4 / 9	5 / 11	7 / 15

Here are the ratios as fractions for the two ways to solve the problem. Since the fractions have different denominators you should change them to decimals and then determine your answer. (You only need to consider one of these ways)

Comment on this hint

Room color	Red	Green	Yellow
Number of Kids	9	11	15
Chocolate Bars	4	5	7
Kids / Bars	9/4 = 2.25	11/5 = 2.2	15/7 = 2.14
Bars / Kids	4/9 = 0.44	5/11 = 0.45	7/15 = 0.47

Now all the fractions are in decimals. In which room do the kids get the most chocolate?

Comment on this hint

Since there are 2.14 kids per choclate bar in the Yellow Room, the Yellow Room has the smallest number of kids per chocolate bar so the kids get the most choclate.

Or

you could say there are .47 choclate bars per kid in the Yellow room which is the most chocolate bars per kid so that is the room where the kids get the most chocolate.

In either case, the answer is the Yellow Room, select the Yellow Room.

Comment on this hint

Select one:

- The Yellow Room
- The Green Room
- The Red Room

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #15736

You are previewing content.

The machines at a factory can fill soda bottles at a rate of 330 sodas every 15 minutes. If you were to fill out this rate table, what value would go into the shaded box?

Number of minutes	15	30	45	60	75	90	105	120	135	150
Number of bottles	330									

Comment on this question

Start by drawing the table on your own. It should look like this.

Number of minutes	15	30	45	60	75	90	105	120	135	150
Number of bottles	330									

Comment on this hint

Now use what you know to fill in how many bottles the factory can fill in 30 minutes.

Comment on this hint

In 30 minutes the machine can fill 330 + 330 = 660 soda bottles. In 45 minutes the machine can fill 660 + 330 = 990 soda bottles. Continue adding 330 bottles for each 15 minutes added on in the table.

Comment on this hint

Number of minutes	15	30	45	60	75	90	105	120	135	150
Number of bottles	330	660	990	1320	1650	1980	2310	2640	2970	3300

Comment on this hint

The machine can fill 3300 soda bottles in 150 minutes. Please enter 3300.

Comment on this hint

Type your answer below:

- 3300

Submit Answer

Correct!

You are done with this problem!

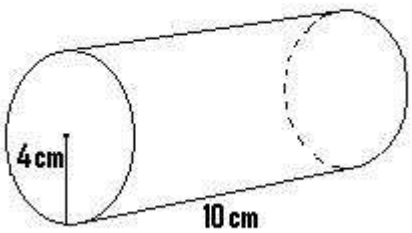
Comment on this problem

Assistment

Assistment #21801

You are previewing content.

How many square cm is the surface area of the cylinder. (It has a top and bottom) Round to the nearest whole number.

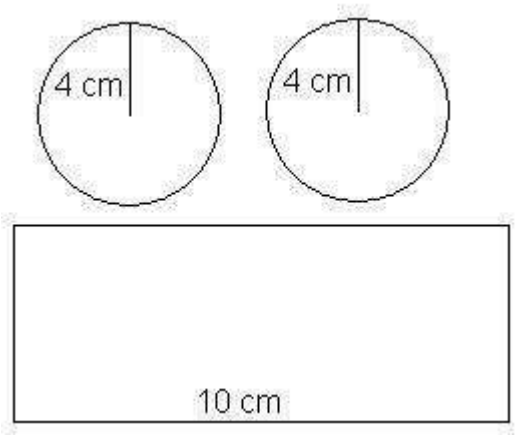


Comment on this question

Since the lateral surface area is the area of all the pieces that make up the cylinder it helps to make a drawing of the parts of the cylinder. Make this drawing on your paper, label it then try to find the total surface area.

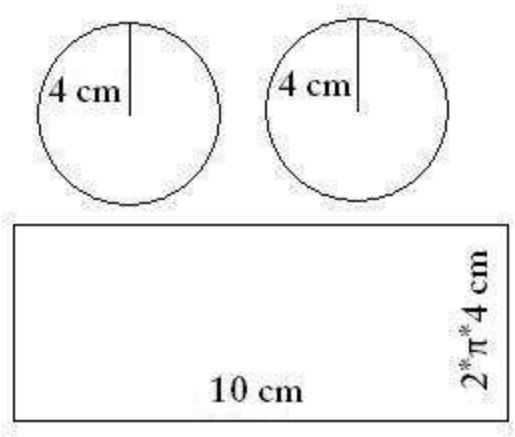
Comment on this hint

Each end of the cylinder is a circle of radius 4cm.
The rectangle has length 10cm and its height is equal to the circumference of one of the circles.



Comment on this hint

Remember that surface area = the area of the circle on the top + the area of the circle on the bottom + the area of the rectangle that makes up the cylinder. So start by finding the area of the two circles (they are identical). Remember, the formula for area of a circle is $\pi * r^2$.



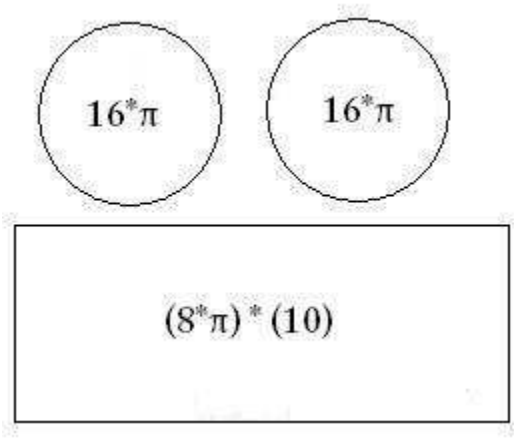
Comment on this hint

The total surface area of the two circles is:

$2 * (\pi*4^2) = 32*\pi$.
Now we need to add in the area of the rectangle. You can see from the original picture that the length of its side is the circumference of the circle, which is $2*\pi*4$cm.

To find the rectangle's area we need to multiply its height, $2*\pi*4$cm by its length, 10 cm.

Comment on this hint



The rectangle's surface area is $2*\pi*4*10$, or $80*\pi$.
We can add this to the circles' area, $32*\pi$, to find that the total surface area is
$80*\pi + 32*\pi = 112*\pi$.

If we use $\pi = 3.14$, the total surface area is:

$112 * 3.14 = 351.68$

If we round to the nearest whole number, the total surface area is 352.

If we use a calculator π button, the total surface area is:

112 * π = 351.85, which also rounds to 352.

Comment on this hint

Type your answer below (mathematical expression):

- 352

Submit Answer

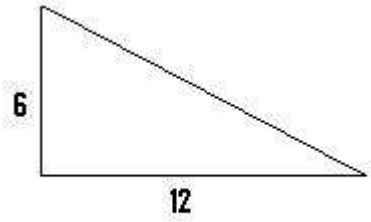
Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #21802

You are previewing content.

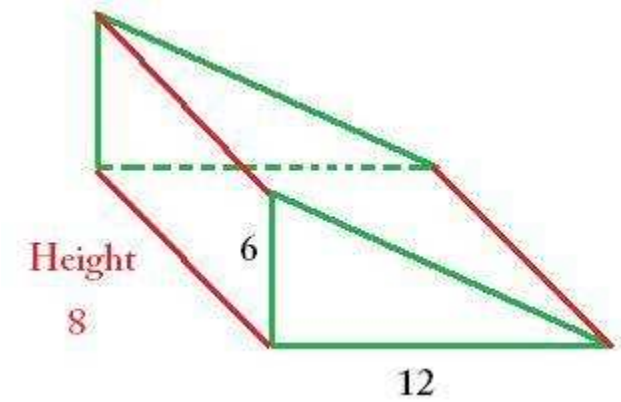
How many cubic feet is the volume of the triangular prism that has a height of 8 feet and the base that is shown in the picture.



Comment on this question

Start by drawing a sketch of the triangular prism and labeling it with the dimentions given.

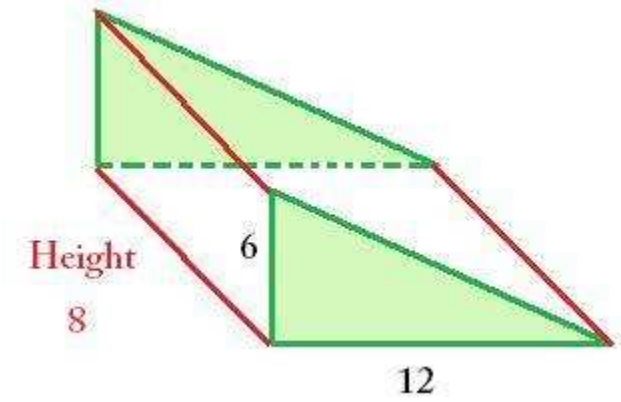
Comment on this hint



Comment on this hint

Remember that the volume of a prism = area of the BASE * height.

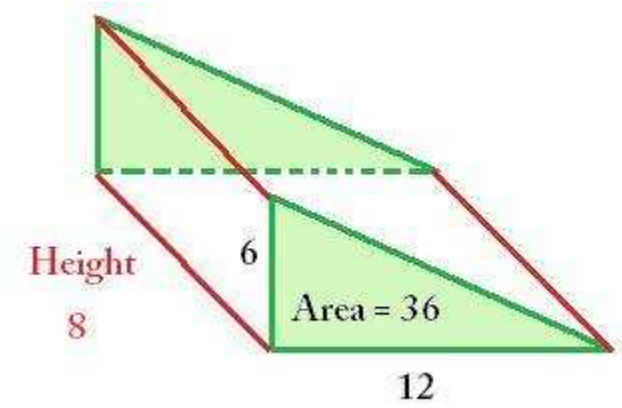
Comment on this hint



The area of the BASE is a triangle. The area of a triangle = ½ the base * the height.

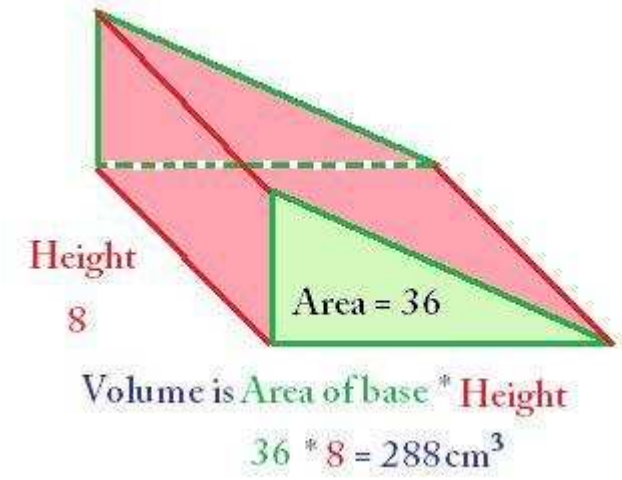
Comment on this hint

Solve for the area of the triangle.
Area = 1/2 * base of triangle * height of triangle
A = 1/2 * (6) * (12)
A = (3) * 12
A = 36



Comment on this hint

Now solve for the volume.
Remember that the area of the triangle is 36 and the height of the prism is 8.
The Volume = Area of the BASE * height of the prism
V = 36 * 8
V=288



The volume of the prism is 288 cm3. Please enter 288.

Comment on this hint

Type your answer below:

- 288

Submit Answer

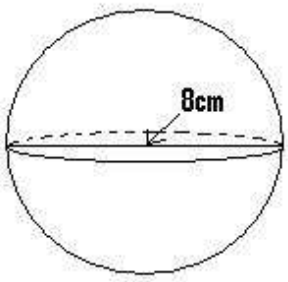
Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #21804

You are previewing content.

Find the volume in cubic cm of the given sphere with a diameter of 8 cm. Round to the nearest centimeter cubed.



Comment on this question

The volume of a sphere = $4/3 * \pi * r^3$

Comment on this hint

The **radius** is equal to half the **diameter**.

r = ½ * **d**

Since the **diameter** (**d**) is **8cm**, the **radius** is

r = 1/2 * (**8**) = **4 cm**

Comment on this hint

Volume = $4/3 * \pi * 4^3$

Volume = 4/3 * π * (**4*****4*****4**) = 267.9466

Comment on this hint

The answer is in cubic centemeters so if you are rounding to the nearest centimeter cubed, you would be rounding to the nearest whole number. 267.9 rounds up to 268.

Comment on this hint

Request Help

Type your answer below:

-

Submit Answer

Assistment

Assistment #24642

You are previewing content.

What is the value of x in this equation?

$$\frac{x}{12} = \frac{25}{50}$$

Comment on this question

To solve this problem, look for a relationship between the fractions, or within one fraction.

Comment on this hint

Look specifically at the relationship between 25 and 50. Then apply this same relationship to x and 12 to solve for x.

$$\frac{x}{12} = \frac{25}{50}$$

Comment on this hint

25 is half as big as 50.

X should also be half as big as 12.

X is 6.

Comment on this hint

Type your answer below:

- 6

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment

Assistment #24666

You are previewing content.

Tables and chairs come in cartons of 3 tables and 12 chairs. If you buy 15 tables, how many chairs will you have?

Comment on this question

One way to solve this problem is to set up a proportion of tables to chairs and then solve for the number of chairs when there are 15 tables.

Comment on this hint

The porportion should look like this:

$$\frac{\text{tables}}{\text{chairs}} \quad \boxed{\frac{3}{12} = \frac{15}{X}}$$

Look for a scale factor between the number of tables in a carton and the 15 tables that are being bought.

$$\frac{\text{tables}}{\text{chairs}} \quad \boxed{\frac{3}{12} \begin{matrix} \dashrightarrow \\ = \\ \dashrightarrow \end{matrix} \frac{15}{X}}$$

Then apply this scale factor to the number of chairs being bought.

Comment on this hint

The 15 tables being bought are 5 times as many as the 3 that come in a carton. Therefore, 5 times as many chairs will be be bought as come in a carton.

Comment on this hint

x = 12 chairs per carton * 5 cartons = 60 chairs.

Therefore if we buy 15 tables we will get 60 chairs.

Please enter 60.

Comment on this hint

Type your answer below:

- 60

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #24667

You are previewing content.

What is the value of x in this equation.

$$\frac{12}{5} = \frac{54}{X}$$

Comment on this question

Look for a relationship between the numerators, 12 and 54, and then apply this same relationship to the denominators, 5 and x.

Comment on this hint

12 times some number is 54.

$$\frac{12 * \square}{5 * \square} = \frac{54}{X}$$

5 times that same number is x.

Comment on this hint

54 / 12 = 4.5
Therefore, 54 is 4.5 times 12, and x is also 4.5 times 5.

$$\frac{12 * 4.5}{5 * 4.5} = \frac{54}{X}$$

5 * 4.5 = X

5* 4.5 = 22.5

Therefore X=22.5

$$\frac{12 * 4.5}{5 * 4.5} = \frac{54}{5 * 4.5}$$

$$\frac{12 * 4.5}{5 * 4.5} = \frac{54}{22.5}$$

Comment on this hint

Type your answer below:

- 22.5

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #24754

You are previewing content.

Mr. Perkins played a Pencil giveaway game on the last period of the day on Fridays. Each of his 24 students rolled a six sided die. If they roll the number 1, they get 2 pencils. If they roll an even number, they get 1 pencil. How many pencils will Mr. Perkins expect to give away?

Comment on this question

One way to solve this problem is to find out the expected number of pencils that each student will receive. Do this by listing each possible roll, and how many pencils are received for that roll.

Comment on this hint

If a student rolls a 1 he receives 2 pencils. If a student rolls an even number he receives 1 pencil. Using these rules, fill in the following table.

Roll

1 - 2 pencils since it is a 1

2 - 1 pencil since 2 is even

3 -

4 -

5 -

6 -

After completing the table, count up how many pencils are won in these six possible outcomes of the die. Then find out how many pencils are given away when 24 students roll the die.

Comment on this hint

Roll

1 - 2 pencils

2 - 1 pencil

3 - 0 pencils

4 - 1 pencil

5 - 0 pencils

6 - 1 pencil

If all six rolls were to occur, Mr. Perkins would give away (2 + 1 + 0 + 1 + 0 + 1) = 5 pencils.

Since all six possible rolls are equally likely, we can treat this as six students rolling the die. The first student rolls a 1, the second student rolls a 2 and so on. After these 6 student each roll the die, Mr. Perkins will have to give away 5 pencils.

If Mr. Perkins gives away 5 pencils to these 6 students, how many pencils will he give away to 24 students?

Comment on this hint

For every 6 students Mr. Perkins expects to give away 5 pencils. Since 24 is 4 * 6, Mr. Perkins will expect to give away 4 times as many pencils as he does for 6 students.

Mr. Perkins will give away

5 pencils * (24 / 6) =

5 pencils * (4) =

20 pencils.

Please enter 20.

Comment on this hint

Type your answer below:

- 20

Submit Answer

Correct!
You are done with this problem!

Comment on this problem

Assistment

Assistment #24761

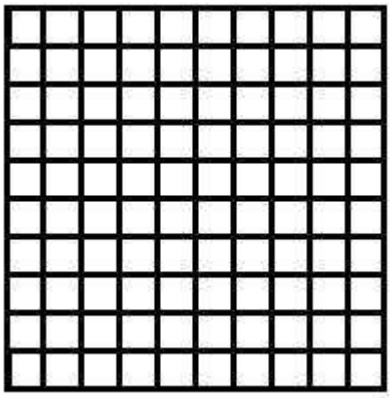
You are previewing content.

Jill is playing darts. She can hit the bull's-eye 30% of the time.

She is playing a game in which she gets a pencil if she hits a bulll's-eye. In the game she can throw once and **if** she gets a bull's-eye she can throw again. What are her chances of getting 2 pencils? (Give your answer as a percent without the percent (%) symbol)

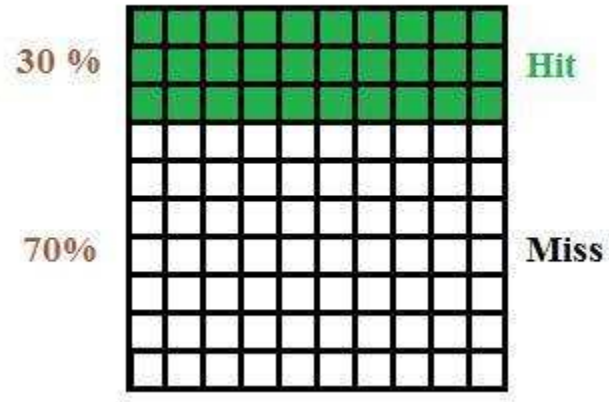
Comment on this question

One way to solve this problem is to make an area model. Since the problem gives the probability as a percent, use a square with 100 tiles with 10 tiles per side to model this game of darts.



Start by labeling the area model with the outcome of the first throw.

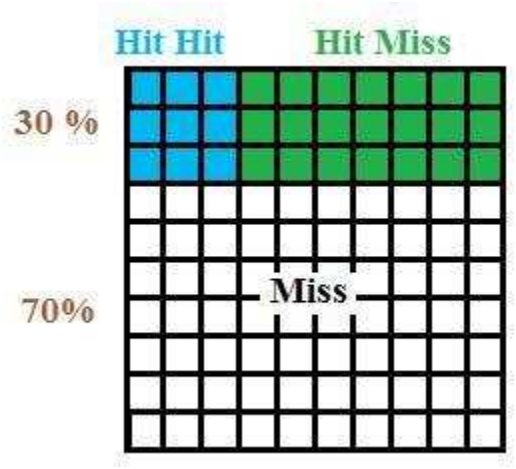
Comment on this hint



The tiles colored with **green** represent **hitting the bulls-eye** on her first shot.

Out of the 30 green squares, on her second throw, she can either hit again (30%) or miss (70%). Add this to your area model.

Comment on this hint



Jill only gets a second throw if she hit the bulls-eye on her first throw (**the green area of the previous hint**). When we mark her second throw, we only have to look at the green area.

The blue tiles represent her making her second throw and the green tiles represent her missing her second throw.

Comment on this hint

Jill gets 2 pencils if she hits the bulls-eye on her first and second throw. This is the blue area (**Hit Hit**) of the area model.

There are 9 blue squares out of 100 squares. Therefore, Jill will get two pencils 9% of the time.

Please enter 9.

Comment on this hint

Type your answer below (mathematical expression):

- 9

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #24767

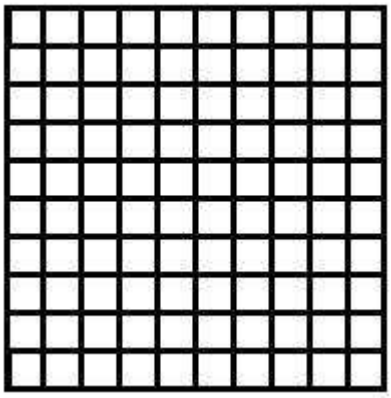
You are previewing content.

Jill is playing darts. She can hit the bull's-eye 30% of the time. She is playing a game in which she gets a pencil if she hits a bulll's-eye. In the game she can shoot once and if she gets a bull's-eye she can shoot just once again during that turn. If Jill plays the game 100 times, how many pencils would you expect her to win.

Comment on this question

One way to solve this problem is to model this game of darts with an area model.

Divide the model into areas and lable how many pencils she will win for each of the area.



Comment on this hint

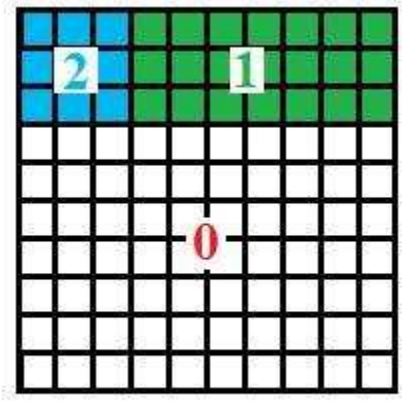
The blue area is for hit - hit.

The green area is for hit - miss.

The white area is for missing the bulls-eye.

Now, we need to label these areas with how many pencils she receives.

Comment on this hint



Outcome of shot	Number of pencils
Hit Hit	2
Hit Miss	1
Miss	0

According to the rules, if Jill

hits the bulls-eye on her first and second shots, she gets 2 pencils.

hits the bulls-eye on the first shot and misses the second, she gets 1 pencil

misses the bulls-eye on her first shot, she gets 0 pencils

Now we need to decide how many pencils Jill will receive for playing the game 100 times.

Comment on this hint

9 out of 100 times Jill will get **2 pencils** for each of those 9 times. She will expect to **win 18 pencils.**

21 out of 100 times Jill will get **1 pencil** for each of those 21 times. She will expect to **win 21 pencils**.

70 out of 100 times Jill will miss the bulls-eye and will **win 0 pencils**.

The total number of pencils she will expect to win out of 100 trials is:

18 + **21** = 39.

Comment on this hint

Type your answer below:

- 39

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #24768

You are previewing content.

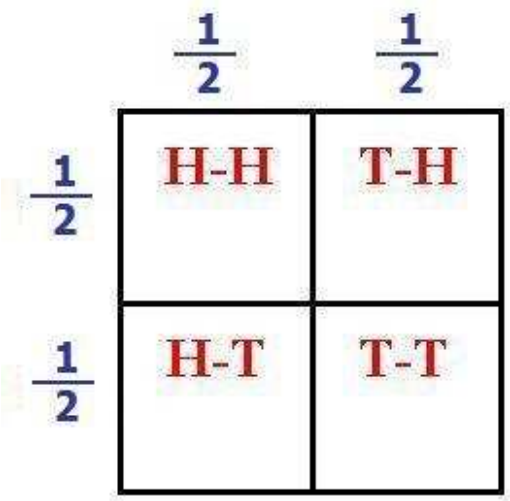
Dan gets an allowance each week. His parents want to make the allowance into a game. He gets $20 if he flips two coins and gets a tails each time. Otherwise, he gets $4. What is the expected value of his allowance?

Comment on this question

One way to solve this problem is to set up an area model to model the possible outcomes when the two coins are flipped.

Comment on this hint

The area model should look similiar to this one since 50% is really 1/2.



$$50\% = \frac{50}{100} = \frac{1}{2}$$

The payout for tails, tails is $20. For all other outcomes the payout is only $4. Add this to your area model.

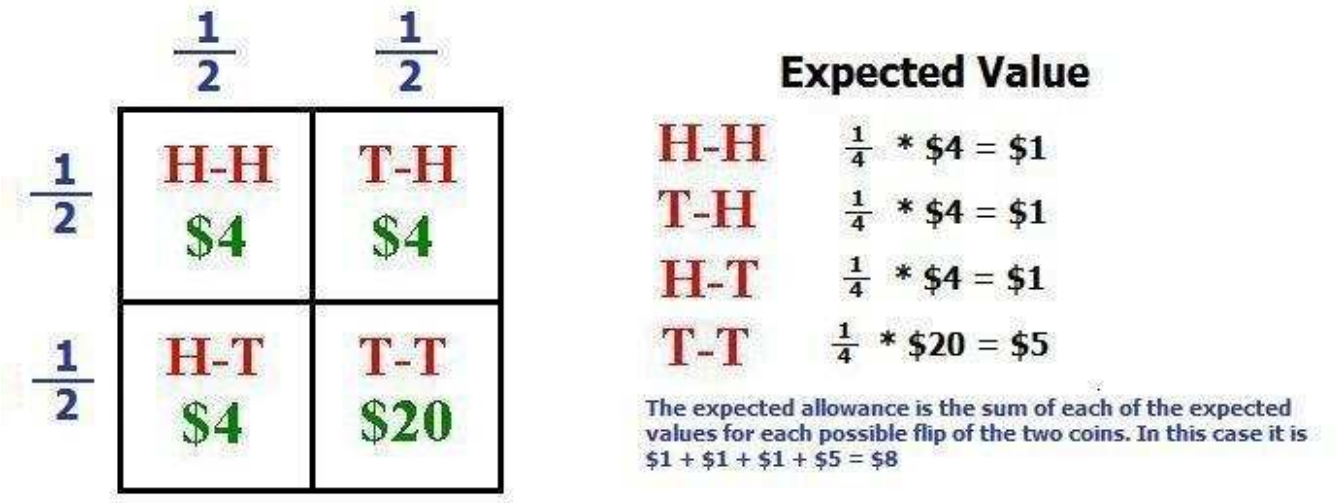
Then compute the expected value of Dan's allowance remember:

Expected value = (value in $) * (probability of event occuring)

You can use your area model to find the probability of the event occuring..

Comment on this hint

The area of each of the four boxes in 1/4, which is also the probability of the event occuring. From this information, the expected value can be found.



The expected value is $8, so over a long period of time he should average $8 for his alowance. Type in 8.

Comment on this hint

Type your answer below:

- 8

Submit Answer

Dan only receives $20 if both coins land tails. Otherwise, he only gets $4.

Correct!
You are done with this problem!

Comment on this problem

Assistment

Assistment #24774

You are previewing content.

Bill's teacher asked each student to make up a game. Bill's game involved the player making two choices. First the player had to pick one of three bags labeled A, B, and C. Then the player had to take a colored cube out of the bag chosen. This is what was in each of the bags:

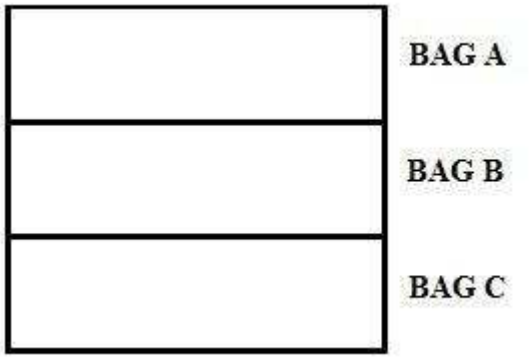
Choices for Bill's game:

Bag A	Red	Red	Blue	
Bag B	Green	Blue		
Bag C	Yellow	Yellow	Green	Blue

If 100 people played Bill's game, to the nearest person, how many of them would you expect to draw a green cube?

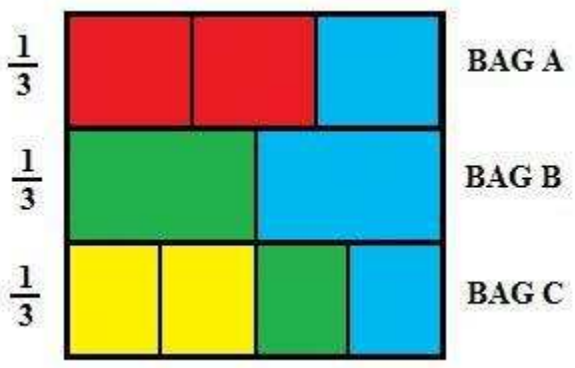
Comment on this question

Use an area model to first represent the bags, and then the cubes within each bag.



Comment on this hint

Your area model should look like this.

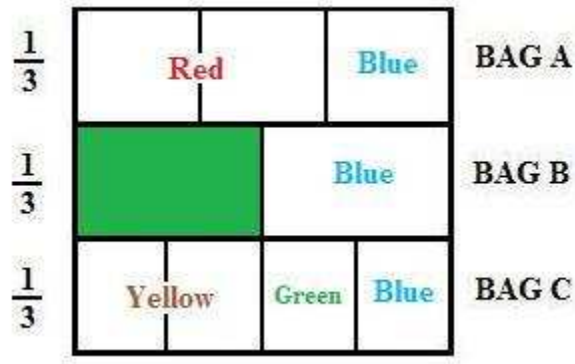


To find the probability of selecting a **green cube**, simply find the area of the **green rectangles** on the area model.

Comment on this hint

There are two areas on the area model representing a **green cube**.

In Bag B, there are two cubes and one of them is **green**.

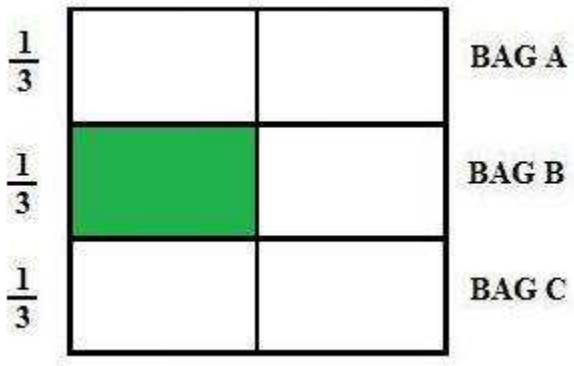


Bag B is selected 1/3 of the time, and a green cube is selected from Bag B 1/2 the time.

The probability of selecting Bag B and a **green cube**

is therefore

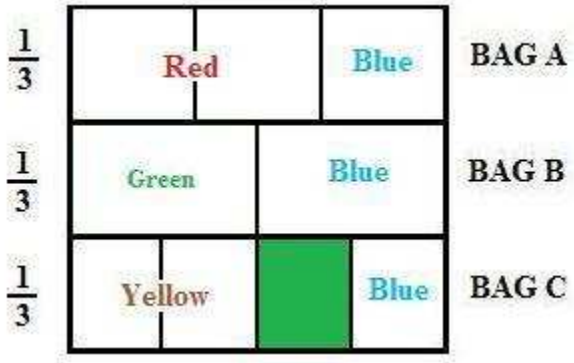
1/3 * 1/2 = 1/6.



Find the area of the other **green rectangle** and add these two areas to find the probability that **each** person will select a **green cube**.

Comment on this hint

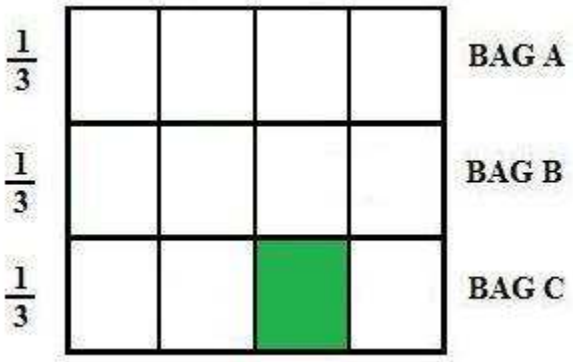
There is also a **green cube** in Bag C.



Bag C is selected 1/3 of the time, and there are 4 cubes in bag 4 and only 1 of them is **green**.

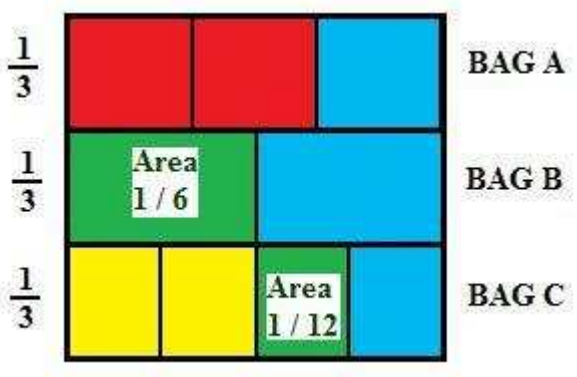
The probability of selecting Bag C and a green cube is therefore

1/3 * 1/4 = 1/12.



To find the total probability that each person will select a **green cube** is the sum of these probabilities.

Comment on this hint



The total probability of selecting a **green cube**, is the sum of these probabilities.

$$\frac{1}{6} + \frac{1}{12}$$

$$\left(\frac{1}{6} * \frac{2}{2}\right) + \frac{1}{12}$$

$$\frac{2}{12} + \frac{1}{12} = \frac{3}{12}$$

$$\frac{3}{12} = \frac{1}{4}$$

Therefore there is a 1/4 chance that **each person** will select a **green cube** in this game.

Comment on this hint

If 100 people play this game, and each of them has a 1/4 chance of selecting a **green cube**, we would expect

100 * 1/4 = 25 people who would select a **green cube**.

Please enter 25.

Comment on this hint

Type your answer below (mathematical expression):

- 25

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

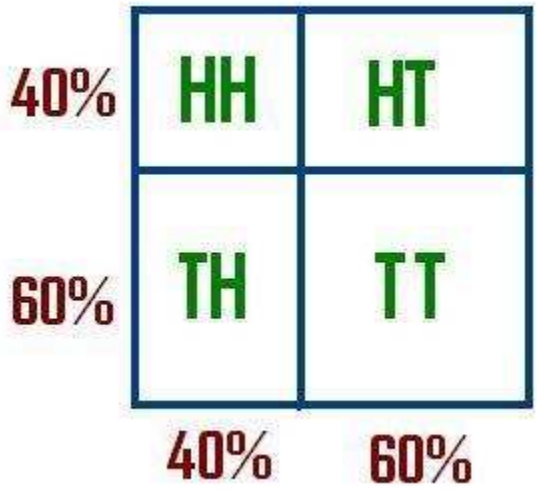
Assistment

Assistment #24781

You are previewing content.

The following area model represents a coin flipping game in which the odds of getting a head is not the same as getting a tail.

In this area model, what percent is HH?

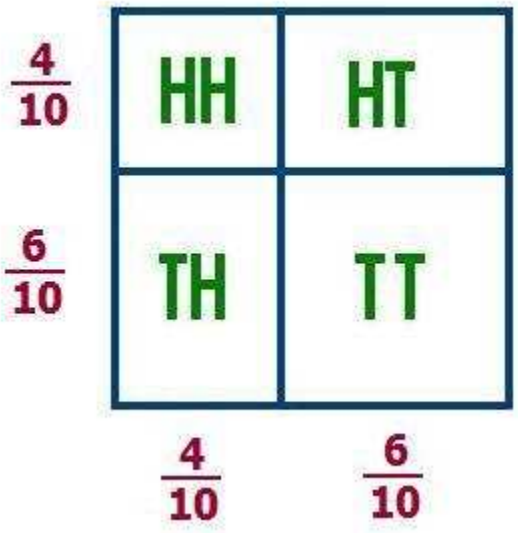


Comment on this question

One way to solve this problem is to make a new area model where each % is turned into a fraction.

Comment on this hint

Your area model should look similiar to this. Notice how each % is converted into a fraction.



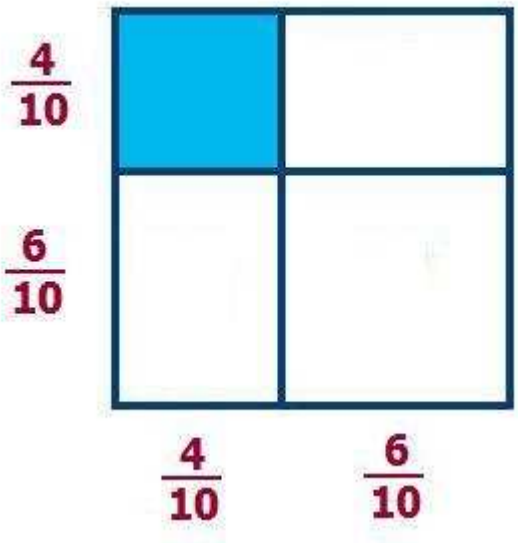
You can do this because

$$40\% = \frac{40}{100} = \frac{4}{10}$$

$$60\% = \frac{60}{100} = \frac{6}{10}$$

If you have your sides labeled with 2/5 for 40% and 3/5 for 60% this is also correct.

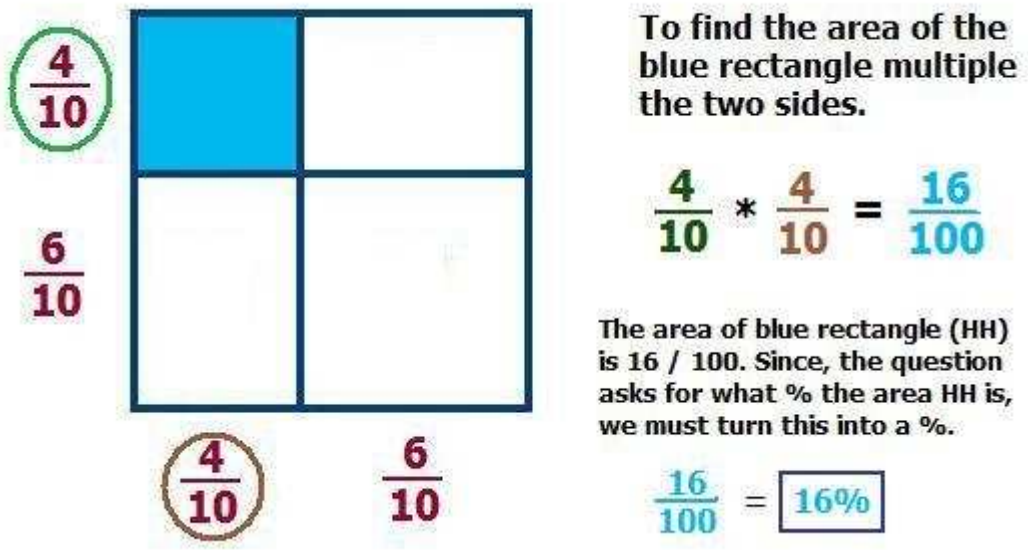
To find the area of HH, think of it as finding the area of a part of an area model.



To find the area of HH we need only to multiply the two sides we just found.

Comment on this hint

In the following picture, the colored fractions represent the side that is circled in that color.



The area of the blue rectangle is the same as the probability of HH since we colored HH in blue. The percentage of selecting the blue rectangle is 16%, and so the chances of flipping HH is 16%. Type in 16

Comment on this hint

Type your answer below:

- 16

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #24931

You are previewing content.

Alex practiced playing the piano each day last week. The number of minutes he practiced each day is shown in the table below.

Piano Practice Time per Day

Day	Time (minutes)
Sunday	55
Monday	20
Tuesday	25
Wednesday	45
Thursday	50
Friday	20
Saturday	30

What is the median number of minutes per day that Alex practiced last week?

Comment on this question

Request Help

Select one:

- A. 20 minutes
- B. 30 minutes
- C. 35 minutes
- D. 45 minutes

Submit Answer

Let's move on and figure out this problem

First lets review the definition of median.

Which of the following is how you find the median number of minutes practiced?

Comment on this question

The **range** is the difference between the highest and lowest number.

Choice A) is not the correct answer.

Comment on this hint

The most common number of minutes practiced a day is called the **mode**.

Choice D) is not the correct answer.

Comment on this hint

The **median** is the middle number in an increasing or decreasing list of numbers.

If there are 2 numbers in the middle of the list, the median is the average of those two numbers.

Choice B) is the correct answer.

Comment on this hint

Select one:

- A. The **difference** between the most and least minutes practiced.
- B. The **middle number** of minutes practiced in an increasing list of the minutes practiced.
- C. The **sum** of all the minutes practiced **divided by** the total number of days.
- D. The **most common** number of minutes practiced a day.

Submit Answer

Correct!

Now that we know the median is the middle number in an increasing list of the minutes practiced, lets sort the minutes spent practicing each day practicing.

Piano Practice Time per Day

Day	Time (minutes)
Sunday	55
Monday	20
Tuesday	25
Wednesday	45
Thursday	50
Friday	20
Saturday	30

Which of these is an increasing sequence of the number of minutes practiced each day?

Comment on this question

Choice C is not an increasing list since 55 is greater than 20.

We can eliminate choice C.

Comment on this hint

Choice B has 45 listed twice, but 45 minutes are only spent practicing on Wednesday.

We can eliminate choice B.

Comment on this hint

Choice A is an increasing list of numbers, but there are only 6 numbers, and there are 7 days of the week.

We can eliminate choice A, and are left with choice D.

The correct sequence is:

D) 20, 20, 25, 30, 45, 50, 55

Comment on this hint

Select one:

- A. 20, 25, 30, 45, 50, 55
- B. 20, 25, 30, 45, 45, 50, 55
- C. 55, 20, 25, 45, 50, 20, 30
- D. 20, 20, 25, 30, 45, 50, 55

Submit Answer

Correct!

Now we will return to the original question.

Alex practiced playing the piano each day last week. The number of minutes he practiced each day is

shown in the table below.

Piano Practice Time per Day

Day	Time (minutes)
Sunday	55
Monday	20
Tuesday	25
Wednesday	45
Thursday	50
Friday	20
Saturday	30

What is the median number of minutes per day that Alex practiced last week?

Comment on this question

The sorted list of minutes spent practicing is:

20, 20, 25, 30, 45, 50, 55

Comment on this hint

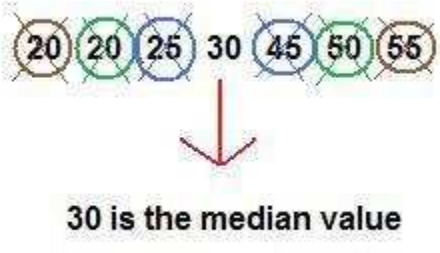
Start by crossing out a number at the start of the list, and a number at the end of the list. Move in from both ends until only one number remains.

Comment on this hint

First cross out the numbers **20** and **55,** (circled in brown).

Then cross out the numbers **20** and **50,** (circled in green).

Then cross out the numbers **25** and **45** (circled in blue).



We are left with only one uncircled value. This value (30) becomes the median.

The median number of minutes spent practicing is 30.

Comment on this hint

Type your answer below:

-

Submit Answer

Assistment

Assistment #24932

You are previewing content.

The chart below lists the sizes of popcorn, sizes of drinks, and kinds of snacks available at a movie theater.

Movie Theater Concessions

Popcorn Sizes	Drink Sizes	Kinds of Snacks
Small Medium Large	Small Medium Large Jumbo	Candy Bar Pretzel Hot Dog Licorice Sour Pops Ice Cream Bar

What is the total number of different combinations of 1 size of popcorn, 1 size of drink, and 1 kind of snack?

Comment on this question

Request Help

Select one:

- A. 7
- B. 13
- C. 48
- D. 72

Submit Answer

Let's move on and figure out this problem

First, let's look at just the popcorn. How many different sizes of popcorn can be chosen?

Movie Theater Concessions

Popcorn Sizes	Drink Sizes	Kinds of Snacks
Small Medium Large	Small Medium Large Jumbo	Candy Bar Pretzel Hot Dog Licorice Sour Pops Ice Cream Bar

Comment on this question

Count the number of sizes of Popcorn at the Movie Theatre Concessions.

Comment on this hint

There are 3 different sizes of popcorn:

small, medium, large.

There are 3 ways to pick a size of popcorn.

Please enter 3.

Comment on this hint

Type your answer below (mathematical expression):

- 3

Submit Answer

Correct!

Now, lets look at both popcorn and drinks.

How many ways are there to pick a popcorn and a drink?

Movie Theater Concessions

Popcorn Sizes	Drink Sizes	Kinds of Snacks
Small Medium Large	Small Medium Large Jumbo	Candy Bar Pretzel Hot Dog Licorice Sour Pops Ice Cream Bar

Comment on this question

One way to do this is to list out all the combinations of a popcorn and a drink.

Comment on this hint

The first few combinations are:

small popcorn - small drink

small popcorn - medium drink

...

List the rest of the combinations of **1 popcorn** and **1 drink**.

Comment on this hint

You should have listed 12 combinations. They are shown in the picture below.

Popcorn Size	Drink Size
small	small
small	medium
small	large
small	Jumbo
medium	small
medium	medium
medium	large
medium	Jumbo
large	small
large	medium
large	large
large	Jumbo

Notice how there were **3** popcorn sizes, **4** drink sizes, and **12** combinations of 1 popcorn size and 1 drink size. (**4 * 3 = 12**)

Please enter 12.

Comment on this hint

Type your answer below (mathematical expression):

- 12

Submit Answer

Correct!

Now we know there are 12 ways to pick 1 popcorn size and 1 drink size. However, there are also snacks at the movie theatre.

Movie Theater Concessions

Popcorn Sizes	Drink Sizes	Kinds of Snacks
Small Medium Large	Small Medium Large Jumbo	Candy Bar Pretzel Hot Dog Licorice Sour Pops Ice Cream Bar

What is the total number of different combinations of 1 size of popcorn, 1 size of drink, and 1 kind of snack?

Comment on this question

One way to solve this problem is to just list out all the combinations as in the last problem.

Another way is to look at how many ways there are to pick a snack for each specific combination of 1 popcorn size and 1 drink size.

Remember, there were 12 combinations as found in the previous problem.

Comment on this hint

List out all the combinations when the popcorn is of size small, the drink is of size small and the snack can be any of the 6 choices of kinds of snacks.

Comment on this hint

Your list should look similiar to the picture below.

Popcorn Size	Drink Size	Kinds of Snack
small	small	Candy Bar
small	small	Pretzel
small	small	Hot Dog
small	small	Licorice
small	small	Sour Pops
small	small	Ice Cream Bar

There are 6 combinations

There are **6** combinations for **just a small popcorn and a small drink.** There will also be 6 combinations for a small popcorn and a medium drink. List them out to check.

Then, think about the how many combinations there will be for each of the other combinations of 1 drink and 1 popcorn.

Comment on this hint

The picture below shows for a **small popcorn** and a **small drink**, there are **6 combinations** of snacks.

Notice how in the previous problem, a small popcorn and a small drink were one of 12 possible combinations of a popcorn and a drink.

If each of the 12 combinations of **1 popcorn** and **1 drink** has **6 ways to pick a snack**, how many total combinations will there be?

Comment on this hint

If there are **12 combinations** of **1 popcorn** and **1 drink**, and each one has **6 ways to pick a snack**, there will be

12 * **6** = **72** combinations of 1 popcorn, 1 drink and 1 snack.

All 72 Combinations

Small Small Candy Bar	Medium Large Candy Bar
Small Small Pretzel	Medium Large Pretzel
Small Small Hot Dog	Medium Large Hot Dog
Small Small Licorice	Medium Large Licorice
Small Small Sour Pops	Medium Large Sour Pops
Small Small Ice Cream Bar	Medium Large Ice Cream Bar
Small Medium Candy Bar	Medium Jumbo Candy Bar
Small Medium Pretzel	Medium Jumbo Pretzel
Small Medium Hot Dog	Medium Jumbo Hot Dog
Small Medium Licorice	Medium Jumbo Licorice
Small Medium Sour Pops	Medium Jumbo Sour Pops
Small Medium Ice Cream Bar	Medium Jumbo Ice Cream Bar
Small Large Candy Bar	Large Small Candy Bar
Small Large Pretzel	Large Small Pretzel
Small Large Hot Dog	Large Small Hot Dog
Small Large Licorice	Large Small Licorice
Small Large Sour Pops	Large Small Sour Pops
Small Large Ice Cream Bar	Large Small Ice Cream Bar
Small Jumbo Candy Bar	Large Medium Candy Bar
Small Jumbo Pretzel	Large Medium Pretzel
Small Jumbo Hot Dog	Large Medium Hot Dog
Small Jumbo Licorice	Large Medium Licorice
Small Jumbo Sour Pops	Large Medium Sour Pops
Small Jumbo Ice Cream Bar	Large Medium Ice Cream Bar
Medium Small Candy Bar	Large Large Candy Bar
Medium Small Pretzel	Large Large Pretzel
Medium Small Hot Dog	Large Large Hot Dog
Medium Small Licorice	Large Large Licorice
Medium Small Sour Pops	Large Large Sour Pops
Medium Small Ice Cream Bar	Large Large Ice Cream Bar
Medium Medium Candy Bar	Large Jumbo Candy Bar
Medium Medium Pretzel	Large Jumbo Pretzel
Medium Medium Hot Dog	Large Jumbo Hot Dog
Medium Medium Licorice	Large Jumbo Licorice
Medium Medium Sour Pops	Large Jumbo Sour Pops
Medium Medium Ice Cream Bar	Large Jumbo Ice Cream Bar

Comment on this hint

Select one:

- A. 7
- B. 13
- C. 48
- D. 72

Submit Answer

Correct!
You are done with this problem!
Comment on this problem

Assistment

Assistment #24976

You are previewing content.

Rae is making a salad. The choices for the ingredients are shown in the chart below.

Salad Ingredients

Lettuce	Vegetable	Dressing
Iceberg Romaine	Carrot Celery Broccoli Cauliflower	Ranch Italian Caesar Vinaigrette French

What is the total number of different salads she can make using one lettuce, one vegetable, and one dressing?

Comment on this question

Request Help

Select one:

- A) 11
- B) 15
- C) 20
- D) 40

Submit Answer

Let's move on and figure out this problem

First off, lets look at how many ways we can pick a type of lettuce.

In the follow chart, how many ways are there to select a lettuce?

Salad Ingredients

Lettuce	Vegetable	Dressing
Iceberg Romaine	Carrot Celery Broccoli Cauliflower	Ranch Italian Caesar Vinaigrette French

Comment on this question

Count the different types of lettuce.

Comment on this hint

There are two types of lettuce, Iceberg and Romaine.
There are 2 ways to pick a lettuce. Please enter 2.

Comment on this hint

Type your answer below:

- 2

Submit Answer

Correct!

There are 2 types of lettuce, 4 types of vegetables and 5 types of dressing.

We need to know how many ways we can pick 1 lettuce, 1 vegetable and 1 dressing.

To begin, how many ways we can pick 1 lettuce and 1 vegetable?

Salad Ingredients

Lettuce	Vegetable	Dressing
Iceberg Romaine	Carrot Celery Broccoli Cauliflower	Ranch Italian Caesar Vinaigrette French

Comment on this question

One way to do this problem is to list out all the possible combinations.

Comment on this hint

The first few combinations are as follows:

Iceberg, Carrot

Iceberg, Celery

Continue in this fashion until you have listed all combinations.

Comment on this hint

If you listed out all possible combinations, you should have a list similiar to this one.

Lettuce	Vegetable
Iceberg,	Carrot
Iceberg,	Celery
Iceberg,	Broccoli
Iceberg,	Cauliflower
Romaine,	Carrot
Romaine,	Celery
Romaine,	Broccoli
Romaine,	Cauliflower

There are 8 possible combinations which can be found by just counting each combination.

Please enter 8.

Comment on this hint

Type your answer below:

- 8

Submit Answer

Correct!

We have listed out the 8 combinations of lettuce and vegetables, but now we need to also use a salad dressing.

How many total combinations are there to make a salad with 1 lettuce, 1 vegetable and 1 dressing?

Salad Ingredients

Lettuce	Vegetable	Dressing
Iceberg Romaine	Carrot Celery Broccoli Cauliflower	Ranch Italian Caesar Vinaigrette French

Comment on this question

One way is just to list out every possible combination.

Another way is to look at how many ways we can pick a dressing for each of the 8 combinations of 1 lettuce and 1 vegetable.

You can start by listing the combinations for the first one of these 8 combinations,

Iceberg, Carrot.

Comment on this hint

There are five ways to pick a dressing for the combination Iceberg, Carrot.

They are listed below:

Lettuce	Vegtable	Dressing
Iceberg	Carrot	Ranch
Iceberg	Carrot	Italian
Iceberg	Carrot	Caesar
Iceberg	Carrot	Vinaigrette
Iceberg	Carrot	French

Remember that we have 8 combinations similiar to Iceberg, Carrot, which has 5 ways to pick a salad dressing.

Lettuce	Vegetable
Iceberg,	Carrot
Iceberg,	Celery
Iceberg,	Broccoli
Iceberg,	Cauliflower
Romaine,	Carrot
Romaine,	Celery
Romaine,	Broccoli
Romaine,	Cauliflower

How many combinations will **all 8 combinations** of 1 lettuce and 1 vegetable have with a salad dressing?

Comment on this hint

If we look at the following picture, each red line represents a combination: Iceberg, Carrot and a dressing.

Since there are 5 lines, there are 5 combinations using Iceberg, Carrot.

For each combination of 1 lettuce and 1 vegetable, there will be **5** red lines.

If there are 8 combinations, how many red lines (1 lettuce, 1 vegetable, 1 salad dressing) will there be in total?

Comment on this hint

There are 8 combinations of a lettuce and a vegetable and each one has 5 possible dressings. Therefore, there are

8 * 5 = 40 combinations with 1 dressing, 1 vegetable, and 1 dressing.

Here is the list of all 40 combinations.

Comment on this hint

Select one:

- A) 11
- B) 15
- C) 20
- D) 40

Submit Answer

Assistment

Assistment #25000

You are previewing content.

The stem-and-leaf plot below shows the number of minutes each of Ms. Dena;s students spent practicing the piano on Monday night.

Minutes Spent Practicing

1	0 0
2	5 8
3	0 0 5 7
4	5 9

Key
6 | 5 represents 65

Each student's assignment was to practice **at least** 30 minutes on Monday night. What is the total number of students who completed their assignment?

Comment on this question

Request Help

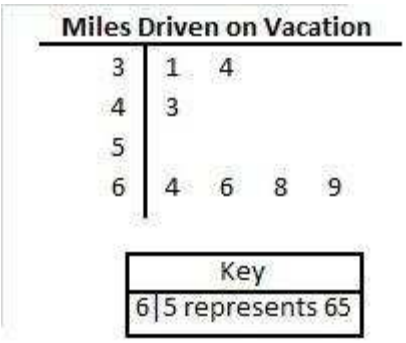
Select one:

- A. 4
- B. 6
- C. 8
- D. 10

Submit Answer

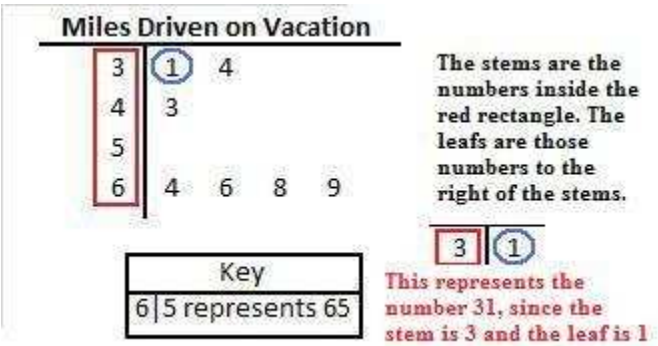
Let's move on and figure out this problem

First, lets look at another stem and leaf plot. What is the highest and lowest numbers on this stem and leaf plot showing the number of miles driven on vacation?



Comment on this question

If we look at the first column (the red rectangle) we get the stem of a number. If the stem is a 3, we can look at the leaf. If the leaf is a 1 (circled in blue) the number is 31.

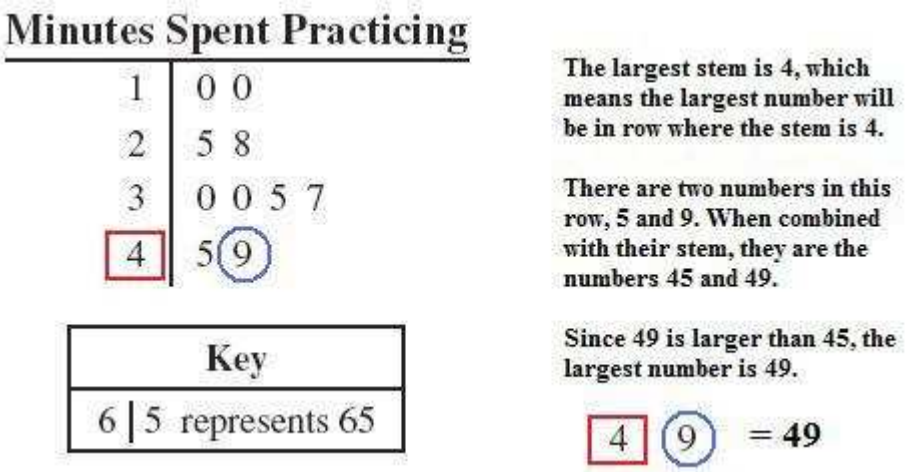


Comment on this hint

The smallest number is going to be 31. Notice how it is the first number on the stem and leaf chart.

To find the largest number, look first for the largest stem, and then the largest leaf of that stem.

Comment on this hint



A) 31, 49 is the correct answer.

Comment on this hint

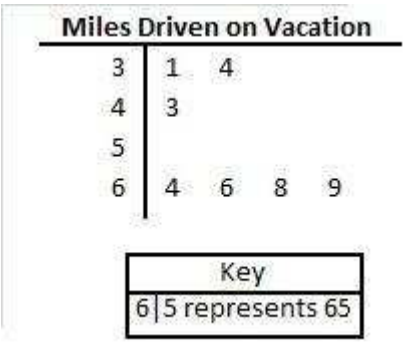
Select one:

- A. 31 and 49
- B. 14 and 4689
- C. 13 and 96
- D. 31 and 96

Submit Answer

Correct!

The stem and leaf plot below shows how many miles students drove on their summer vacation. How many people drove at least 40 miles on vacation?



Comment on this question

To start off, list all the number of miles driven from the chart.

Comment on this hint

You should have listed the following numbers:

31, 34, 43, 64, 66, 68, 69

Each number is the number of miles a student drove on their vacation. There are 7 numbers listed, and so there are seven students.

Now count how many students drove at least 40 miles.

Comment on this hint

The numbers below in red are the numbers that are at least 40.

31, 34, **43, 64, 66, 68, 69**

Since there are 5 numbers, there are 5 students who drove at least 40 miles on their vacation.

Please enter 5.

Comment on this hint

Type your answer below:

- 5

Submit Answer

Correct!

The stem-and-leaf plot below shows the number of minutes each of Ms. Dena's students spent practicing the piano on Monday night. How many students spent at least 30 minutes practicing?

Minutes Spent Practicing

1	0 0
2	5 8
3	0 0 5 7
4	5 9

Key
6 | 5 represents 65

Comment on this question

If the number of minutes spent practicing is a**t least 30**, what stems can it have in the stem-and-leaf plot?

Comment on this hint

If a number is **at least 30**, it can have a stem of either **3 or 4**.

Minutes Spent Practicing

1	0 0
2	5 8
3	0 0 5 7
4	5 9

Key
6 | 5 represents 65

Now, list out all the numbers that have a stem of either a **3 or a 4**.

Comment on this hint

Each leaf is boxed in a certain color. The number to the right in that same color is represented by that leaf.

Minutes Spent Practicing

1	0 0	
2	5 8	
3	0 0 5 7	30 30 35 37
4	5 9	45 49

Key
6 | 5 represents 65

How many of these numbers are **at least 30**?

Comment on this hint

Since all of the circled numbers are at least 30, we can just count the numbers.

30 30 35 37 45 49

There are 6 numbers listed, and so 6 students spent **at least 30** minutes practicing the piano and completed their assignment.

Please select

B) 6

Comment on this hint

Select one:

- A. 4
- B. 6
- C. 8
- D. 8

Submit Answer

Assistment

Assistment #25056

You are previewing content.

Travis is rolling a fair number cube with faces numbered 1 through 6. What is the probability that the result on his next roll will be an odd number?

Comment on this question

Request Help

Select one:

- A. 1 out of 6
- B. 2 out of 6
- C. 3 out of 6
- D. 6 out of 6

Submit Answer

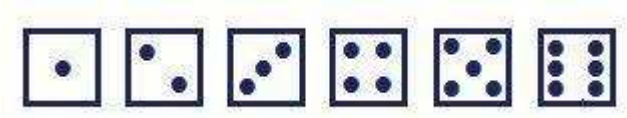
Let's move on and figure out this problem

A fair number cube means any side has an equal chance of showing up when the cube is rolled.

If the number cube has 6 sides, with faces (sides) numbered 1 through 6, what is the probability of rolling a 3?

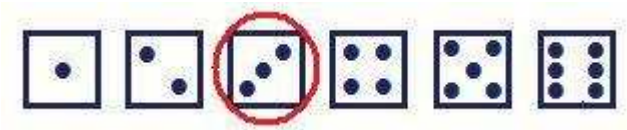
Comment on this question

This number cube can be viewed as a die.



To find the probability you have to find the **number of ways to roll a 3** out of the **total number of possible rolls.**

Comment on this hint



The **number of ways to roll a 3** is 1 (circled in red).

The probability is the **number of ways to roll a 3** out of the **total number of possible rolls**.

Comment on this hint

The **total number of possible roll**s is 6. Either a 1, 2, 3, 4, 5 or 6 can be rolled.

Since there is only **1 way to roll a 3**, and there are **6 possible rolls**, the probability of rolling a 3 is 1 out of 6.

Please select

D) 1 out of 6.

Comment on this hint

Select one:

- A. 3 out of 3
- B. 3 out of 6
- C. 2 out of 6
- D. 1 out of 6

Submit Answer

Correct!

If the number cube has 6 sides, with faces (sides) numbered 1 through 6, what is the probability of rolling an even number?

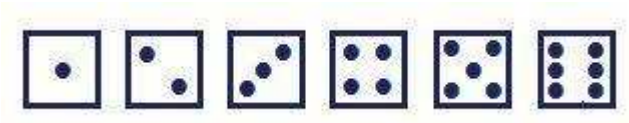
Comment on this question

To find the probability you have to find the **number of even number roll**s out of the **total number of possible rolls**.

Comment on this hint

First decide on the **number of even number rolls**. This is just the number of ways an even number can be rolled.

The number cube can be viewed as a die.

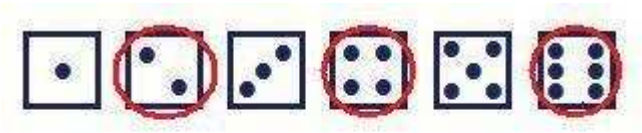


Then find the **total number of possible rolls**.

Comment on this hint

There are **3 ways to roll an even number.**

Either a 2, 4 or 6 can be rolled.



$$\text{Probability} = \frac{\text{number of ways to roll an even number}}{\text{total number of rolls}}$$

Now decide the **total number of possible rolls.**

Comment on this hint

There are **3 ways to roll an even number** and **6 possible rolls**.

There is a **3** out of **6** chance of rolling an even number.

Please select

A) **3** out of **6**.

Comment on this hint

Select one:

- A. 3 out of 6
- B. 1 out of 6
- C. 2 out of 6
- D. 4 out of 6

Submit Answer

Correct!

We have seen how to find the probability of rolling a 3 and the probability of rolling an even number. Now we return to the original question.

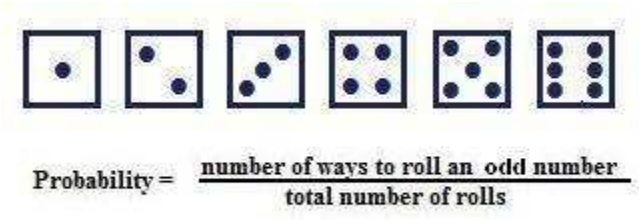
What is the probability of rolling an odd number?

Comment on this question

To find the probability you have to find the **number of odd rolls** out of the **total number of possible rolls.**

Comment on this hint

It may help to think of the number cube as a die as we did in the last problem.



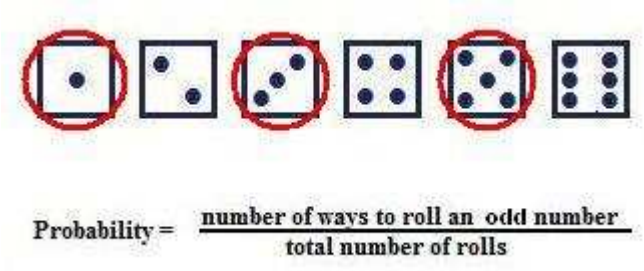
$$\text{Probability} = \frac{\text{number of ways to roll an odd number}}{\text{total number of rolls}}$$

First, decide how many ways are there are to **roll an odd number.**

Then decide the **total number possible rolls**.

Comment on this hint

There are **3 ways to roll an odd number**. They are circled in red in the picture below.



$$\text{Probability} = \frac{\text{number of ways to roll an odd number}}{\text{total number of rolls}}$$

Now, decide **how many possible rolls** there are.

Comment on this hint

There are **6 possible rolls**, either a 1, 2, 3, 4, 5 or 6.

The probability is the **number of ways to roll an odd number (3)** out of the **total number of rolls (6)**.

The probability is therefore

C) 3 out of 6.

Comment on this hint

Select one:

- A. 1 out of 6
- B. 2 out of 6
- C. 3 out of 6
- D. 6 out of 6

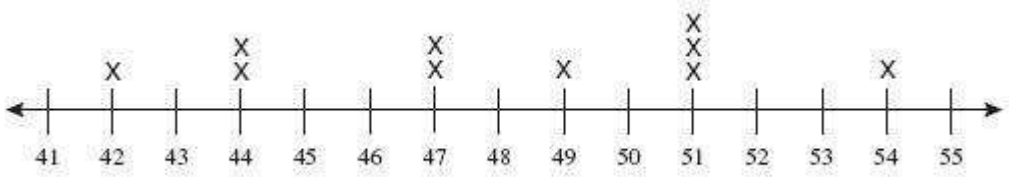
Submit Answer

Assistment

Assistment #25072

You are previewing content.

The line plot below shows the MacArthur School's basketball team game scores.



What is the range of the scores for the MacArthur School's basketball team?

Comment on this question

Request Help

Type your answer below:

Submit Answer

Let's move on and figure out this problem

First, we need to know what **range** means. Which of the following is the definition of **range** in this problem?

Comment on this question

The score that occurs the most is called the '**mode**'.

Choice C can be eliminated.

We are looking for the definition of Range.

Comment on this hint

The **range** is the difference between 2 specific numbers.

Comment on this hint

The **range** in this problem is the difference between the highest and lowest scores.

Choice B is correct.

Comment on this hint

Select one:

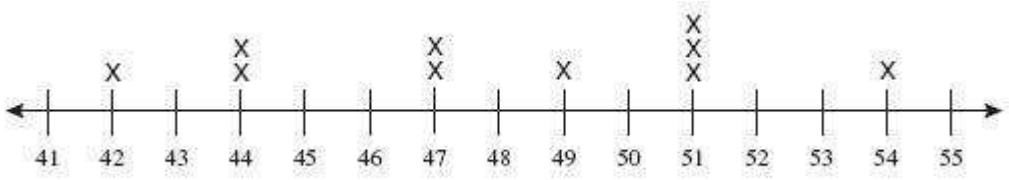
- A. The score that is in the middle of the line.
- B. The difference between the highest and lowest scores.
- C. The score that occurs the most.
- D. The difference between the highest and lowest numbers on the line.

Submit Answer

Correct!

Now that we know what range in this problem means, let's find the lowest score of the basketball games.

What is the lowest score?



Comment on this question

Each 'X' represents a score of a basketball game.

Comment on this hint

Since there are no 'X' above the number 41, there were no games in which 41 was the score.

What is the lowest number that has an 'X' above it?

Comment on this hint

The lowest score is 42, since 42 is the lowest number on the line that has an 'X' above it.

Please enter 42.

Comment on this hint

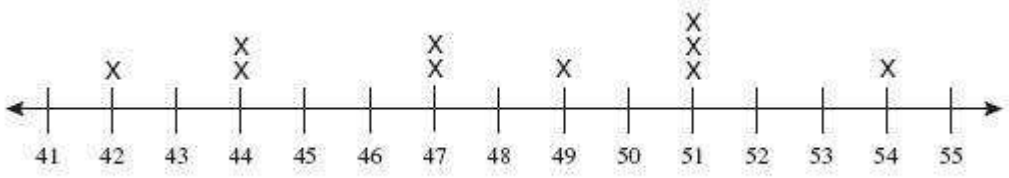
Type your answer below (mathematical expression):

- 42

Submit Answer

Correct!

Now we know the lowest score of all the basketball games, but to find the range we also need the highest scoring game.



What is the largest score for the MacArthur School's basketball team?

Comment on this question

55 may be the largest number on the number line, but it was not the score of a basketball game since there is not an 'X' above it.

Comment on this hint

The largest score is 54 since it is the largest number on the number line with an 'X' above it.

Please enter 54.

Comment on this hint

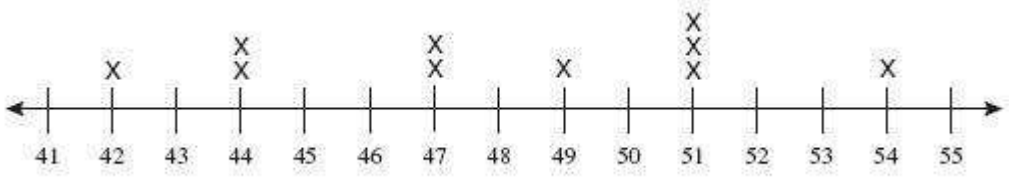
Type your answer below (mathematical expression):

- 54

Submit Answer

Correct!

Now we know the highest and lowest scores of all the basketball games.



What is the range of the scores for the MacArthur School's basketball team?

Comment on this question

The range is the difference between the highest and lowest scores.

Comment on this hint

The lowest score is 42 since it is the smallest number on the number line with an 'X' above it.

The highest score is 54 since it is the largest number on the number line with an 'X' above it.

Comment on this hint

The range is the difference between the highest and lowest score.

54 - 42 = 12

Please enter 12.

Comment on this hint

Type your answer below (mathematical expression):

-

Submit Answer

Assistment

Assistment #25075

You are previewing content.

The chart below shows the number of minutes five students spent exercising yesterday.

Student	Minutes Spent Exercising
Bill	34
Hassan	32
Jenna	0
Monty	20
Beth	34

Based on the data given in the chart, what is the **median** number of minutes the five students spent exercising?

Comment on this question

Request Help

Select one:

- A. 24 minutes
- B. 30 minutes
- C. 32 minutes
- D. 34 minutes

Submit Answer

Let's move on and figure out this problem

First we need to know the definition of **median** for this problem.

Which of the following is equal to the **median** number of minutes students spent exercising?

Comment on this question

The sum of the minutes spent exercising divided by the number of students is the **mean**.

Comment on this hint

The **mode** is the number of minutes that comes up most often.

Think of a word that seems similiar to **median.**

Comment on this hint

The **median** is the **middle** of the sorted list of the minutes spent exercising.

The **range** is the difference between the highest and lowest numbers.

The correct answer is the **median** is:

D) The **middle number** in a sorted list of all the minutes spent exercising.
Comment on this hint

Select one:

- A. The difference between the highest and lowest number of minutes spent exercising.
- B. The sum of the minutes spent exercising divided by the number of students.
- C. The number of minutes that comes up most often.
- D. The middle number of the sorted list of all the minutes spent exercising.

Submit Answer

Correct!

The **median** is the **middle number** in a sorted list of the minutes spent exercising.

We can make a list from either lowest to highest or highest to lowest. For this problem, we will make a list from lowest to highest.

Which of the following is an order list of the number of minutes spent exercising?

Student	Minutes Spent Exercising
Bill	34
Hassan	32
Jenna	0
Monty	20
Beth	34

Comment on this question
There are **5 students**, and so if we list **all** the minutes practiced, we need to list **5 numbers**.
Comment on this hint

Choice B has 5 numbers.

0 20 32 34 34 is a list of the number of minutes spent exercising from lowest to highest.

Please select B.

Comment on this hint

Select one:

- A. 0 20 34 32 34
- B. 0 20 32 34 34
- C. 0 20 32 34
- D. 0 20 20 34 34

Submit Answer

Correct!

What is the **median** number of minutes spent exercising?

Student	Minutes Spent Exercising
Bill	34
Hassan	32
Jenna	0
Monty	20
Beth	34

Comment on this question

The **median** is the middle number in a sorted list of the minutes spent exercising.

In the previous problem, we listed the minutes spent exercising as:

0, 20, 32, 34, 34.

Comment on this hint

Go through the ordered list from lowest to highest of minutes spent practicing and cross out a number from each side of the list, until there is only 1 number left.

Comment on this hint

First we write down the list of minutes exercised.

Then we cross out 1 number from the beginning and 1 number from the end.

Since **32** is the only number not crossed out, it is the **median** number of minutes spent exercising.

Please select:

C) 32 minutes

Comment on this hint

Select one:

- A. 24 minutes
- B. 30 minutes
- C. 32 minutes
- D. 34 minutes

Submit Answer

Assistment

Assistment #25223

You are previewing content.

Emil, Logan, Stacey and Stephanie took a test. Their test scores were 95, 70, 81 and 78, respectively. What was the mean of their test scores?

Comment on this question

Request Help

Type your answer below (mathematical expression):

- 324

Submit Answer

Sorry, that is incorrect. Let's move on and figure out why!

Which of the following is equal to the mean of thier test scores?

Comment on this question

The test score that occurs most often is called the mode.

Comment on this hint

The range is the difference between the highest and lowest test scores.

Comment on this hint

The mean is the sum of the test scores divided by the number of people.

Please select B.

Comment on this hint

Select one:

- A. The difference between the highest and lowest test scores.
- B. The sum of the test scores divided by the number of people.
- C. The test score that occurs most often.
- D. The middle number in a sorted list of the test scores.

Submit Answer

Correct!

The mean is the sum of the scores divided by the number of people.

Their scores were 95, 70, 81 and 78.

What is the sum of these scores?

Comment on this question

Add the four test scores.

Comment on this hint

95 + 70 + 81 + 78 = 324.

Please enter 324.

Comment on this hint

Type your answer below:

- 324

Submit Answer

Correct!

Now let's return to the original question.

Emily, Logan, Stacey and Stephanie took a test. Thier test scores were 95, 70, 81 and 78 respectively.

What was the mean of their test scores?

Comment on this question

The mean is the sum of the scores divided by the number of people.

In the last problem, we found the scores add up to 324.

Comment on this hint

There are 4 people.

Comment on this hint

The mean is

324 / 4 = 81.

Please type in 81

Comment on this hint

Type your answer below (mathematical expression):

-

Submit Answer

Assistment

Assistment #25306

You are previewing content.

If you have a fixed amount of cardboard to make a box then a cube is which one of the following?

Comment on this question

Select one:

- A. The box that will give you the largest surface area.
- B. The box that will give you the most volume.
- C. The box that will give you the least volume.

Submit Answer

Lets take 96 sq ft of cardboard.
A cube will have sides of length 4 since then its **surface area** is 2*(4*4) + 2*(4*4) + 2*(4*4) = 96.
Its **volume** will be 4*4*4 = 64 cu ft.
A non cube can have dimension 2 x 2 x 11 which will have **surface area** 2*(2*11)+2*(11*2) +2*(2*2) = 96.
The **volume** of this box will be 2*2*11 = 44, which is less than the volume of the cube.

Assistment

Assistment #25306

You are previewing content.

If you have a fixed amount of cardboard to make a box then a cube is which one of the following?

Comment on this question

Select one:

- A. The box that will give you the largest surface area.
- B. The box that will give you the most volume.
- C. The box that will give you the least volume.

Submit Answer

Lets take 96 sq ft of cardboard.
A cube will have sides of length 4 since then its **surface area** is 2*(4*4) + 2*(4*4) + 2*(4*4) = 96.
Its **volume** will be 4*4*4 = 64 cu ft.
A non cube can have dimension 2 x 2 x 11 which will have **surface area** 2*(2*11)+2*(11*2) +2*(2*2) = 96.
The **volume** of this box will be 2*2*11 = 44, which is less than the volume of the cube.

Assistment

Assistment #25331

You are previewing content.

Janet was given a list of all possible dimensions for a rectuangular prism made out of 30 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

Comment on this question

Request Help

Select one:

- A. 1 x 2 x 15
- B. 1 x 3 x 10
- C. 1 x 1 x 30
- D. 2 x 3 x 5
- E. 1 x 5 x 6
- F. 3 x 3 x 5

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Sally was given a list of all possible dimensions for a rectuangular prism made out of 12 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

A. 1 x 6 x 2

B. 3 x 2 x 2

C. 12 x 1 x 1

D. 2 x 3 x 4

E. 6 x 2 x 1

F. 1 x 4 x 3

Solution:

The rectangular prism is made out of **12 wooden cubes** and so its **volume must be 12**. The volume of a prism is the product of its length, width and height.

Choice	Dimensions	Volume
A.	1 x 6 x 2	1*6*2 = 12
B.	3 x 2 x 2	3*2*2 = 12
C.	12 x 1 x 1	12*1*1 = 12
D.	2 x 3 x 4	2*3*4 = 24
E.	6 x 2 x 1	6*2*1 = 12
F.	1 x 4 x 3	1*4*3 = 12

Since choice **D** **requires** 24 wooden cubes, and Sally **only has** 12 wooden cubes. Sally can not make a box of dimension 2 x 3 x 4.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Janet was given a list of all possible dimensions for a rectuangular prism made out of 30 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

Please select

F. 3 x 3 x 5

Comment on this hint

Select one:

- A. 1 x 2 x 15
- B. 1 x 3 x 10
- C. 1 x 1 x 30
- D. 2 x 3 x 5
- E. 1 x 5 x 6
- F. 3 x 3 x 5

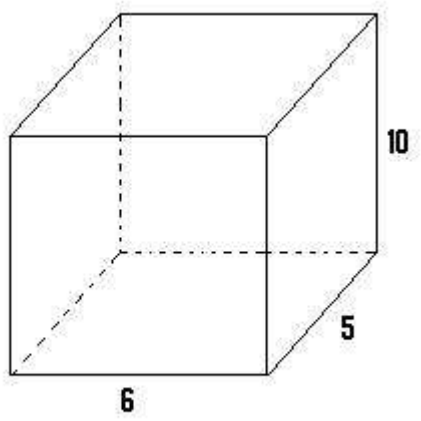
Submit Answer

Assistment

Assistment #25343

You are previewing content.

How many square feet is the surface area of this box?



Comment on this question

Request Help

Type your answer below (mathematical expression):

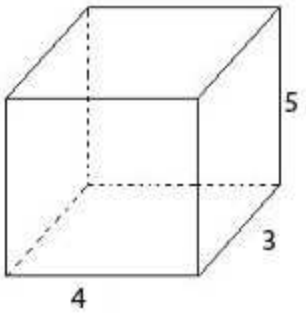
-

Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

How many square feet is the surface area of the box below?



Solution:

The dimension of the box is 4 x 3 x 5.

The surface area is the area of each of the sixes faces of the box.

However, the **top and bottom** of the box will have the same area.

area of top and bottom = (**4*3**) + (**4*3**) = **12** + **12**

The **front and back** of the box will have the same area.

area of front and back = (**4*5**) + (**4*5**) = **20** + **20**

The **left and right sides** of the box will have the same area.

area of left and right = (**3*5**) + (**3*5**) = **15** + **15**

If we add the sides together, we get the total surface area.

12 + **12** + **20** + **20** + **15** + **15** = **94**

The surface area of the box is **94** sq ft.

Comment on this question

Select one:

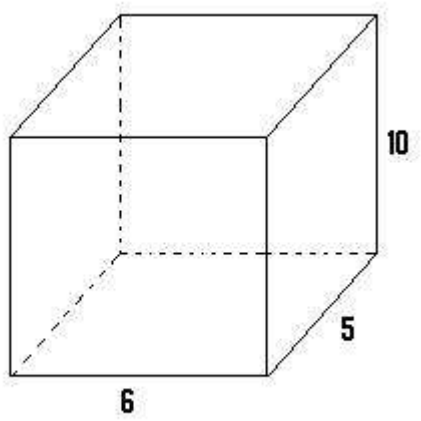
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

How many square feet is the surface area of this box?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The total surface area of the box is 280 ft ^{2}.

Please enter 280.

Comment on this hint

Type your answer below (mathematical expression):

-

Submit Answer

Assistment

Assistment #25346

You are previewing content.

Meghan was given a list of all possible dimensions for a rectuangular prism made out of 42 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

Comment on this question

We are looking for the one that does not multiply together to get 42.

Comment on this hint

Let's start with the third set of dimensions, choice, C, 2 x 1 x 21.

Any number times 1 is equal to that number, so the multiplication works out to be 2 x 21 = 42. Therefore 2 x 1 x 21 could be the dimensions of the box.

Comment on this hint

Choice E, is 14 x 3 x 1, which when multiplied also = 42.
Therefore 14 x 3 x 1 could be the dimensions of the box.

Comment on this hint

Choice A, is 1 x 1 x 42, which also = 42.
Therefore 1 x 1 x 42 could be the dimensions of the box.

Comment on this hint

Choice B is 7 x 3 x 6 which does not multiply out to 42, since:

7 * 3 * 6 =

21 * 6 =

126

This does not work since 126 does not equal 42.

Please select, B. 7 x 3 x 6.

Comment on this hint

Select one:

- A. 1 x 1 x 42
- B. 7 x 3 x 6
- C. 2 x 1 x 21
- D. 7 x 3 x 2
- E. 14 x 3 x 1
- F. 1 x 7 x 6

Submit Answer

Assistment

Assistment #25348

You are previewing content.

Meghan was given a list of all possible dimensions for a rectangular prism made out of 42 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

Comment on this question

Request Help

Select one:

- A. 1 x 1 x 42
- B. 7 x 3 x 6
- C. 2 x 1 x 21
- D. 7 x 3 x 2
- E. 14 x 3 x 1
- F. 1 x 7 x 6

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Sally was given a list of all possible dimensions for a rectuangular prism made out of 12 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

A. 1 x 6 x 2

B. 3 x 2 x 2

C. 12 x 1 x 1

D. 2 x 3 x 4

E. 6 x 2 x 1

F. 1 x 4 x 3

Solution:

The rectangular prism is made out of 12 wooden cubes and so its volume must be 12. The volume of a prism is the product of its length, width and height.

Choice	Dimensions	Volume
A.	1 x 6 x 2	1*6*2 = 12
B.	3 x 2 x 2	3*2*2 = 12
C.	12 x 1 x 1	12*1*1 = 12
D.	2 x 3 x 4	2*3*4 = 24
E.	6 x 2 x 1	6*2*1 = 12
F.	1 x 4 x 3	1*4*3 = 12

Since choice **D requires** 24 wooden cubes, and Sally only has 12 wooden cubes. Sally can not make a box of dimension 2 x 3 x 4.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Meghan was given a list of all possible dimensions for a rectangular prism made out of 42 wooden cubes. She was told that one of the answers is wrong. Which one on the list is wrong?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

Please select

B. 7 x 3 x 6

Comment on this hint

Select one:

- A. 1 x 1 x 42
- B. 7 x 3 x 6
- C. 2 x 1 x 21
- D. 7 x 3 x 2
- E. 14 x 3 x 1
- F. 1 x 7 x 6

Submit Answer

Assistment

Assistment #25368

You are previewing content.

How many square feet is the surface area of this box?

Comment on this question

Remember that the surface area = the area of each of the 6 faces added together.

Comment on this hint

The area of the top face and the bottom face are $8*5 = 40$ ft^2 each.

Comment on this hint

The area of the face closest to you and the one of the back side of the box are $8*6 = 48$ ft^2 each.

Comment on this hint

The area of the remaining 2 faces, the left and right sides are $5*6 = 30$ ft^2 each.

Comment on this hint

To get the total surface area add up all the faces of the box.

Comment on this hint

The total surface area is the area of the top and the bottom faces, the front and back faces, and the left and right side faces added together.

$40 + 40 + 48 + 48 + 30 + 30 =$

$80 + 96 + 60 =$

236 ft^2

Please type in 236.

Comment on this hint

Type your answer below (mathematical expression):

-

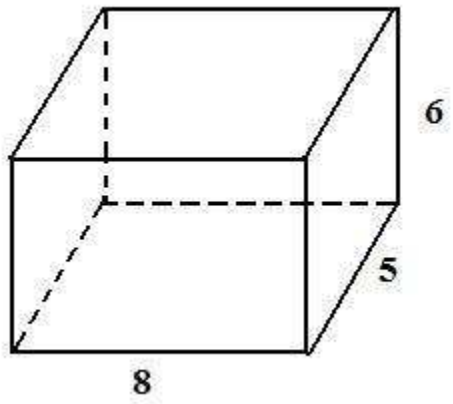
Submit Answer

Assistment

Assistment #25369

You are previewing content.

How many square feet is the surface area of this box?



Comment on this question

Request Help

Type your answer below (mathematical expression):

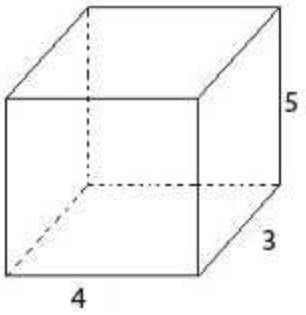
-

Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

How many square feet is the surface area of the box below?



Solution:

The dimension of the box is 4 x 3 x 5.

The surface area is the area of each of the sixes faces of the box.

However, the **top and bottom** of the box will have the same area.

area of top and bottom = (**4*3**) + (**4*3**) = **12** + **12**

The **front and back** of the box will have the same area.

area of front and back = (**4*5**) + (**4*5**) = **20** + **20**

The **left and right sides** of the box will have the same area.

area of left and right = (**3*5**) + (**3*5**) = **15** + **15**

If we add these all together, we get the total surface area.

12 + **12** + **20** + **20** + **15** + **15** = **94**

The surface area of the box is **94** sq ft.

Comment on this question

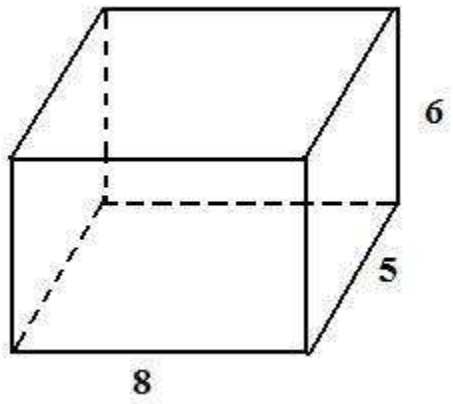
Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!
Now try the original problem again. You may look back at the worked out example if that helps you.

How many square feet is the surface area of this box?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is 236.

Please enter 236.

Comment on this hint

Type your answer below (mathematical expression):

-

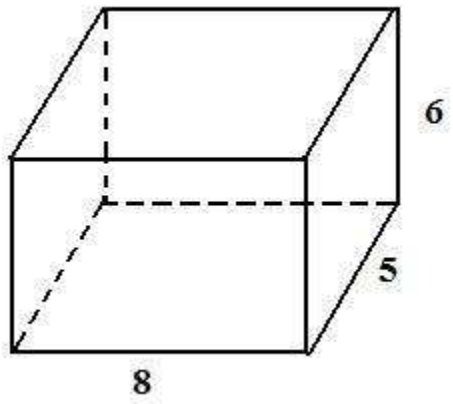
Submit Answer

Assistment

Assistment #25374

You are previewing content.

How many cubic feet is the volume of this box?



Comment on this question

Remember,

the volume of a rectangular prism = length * width * height.

Comment on this hint

Let's pick the length to be the side that is 8 ft long.

Let's pick the width to be the side that is 5 ft long.

Find the height and then the volume of the rectangular prism.

Comment on this hint

The height will have to be the remaining side, 6 ft.

Volume = length * width * height

Comment on this hint

volume = length * width * height

volume = 8 * 5 * 6

volume = 240 ft^3

Please enter 240.

Comment on this hint

Type your answer below (mathematical expression):

- 236

Submit Answer

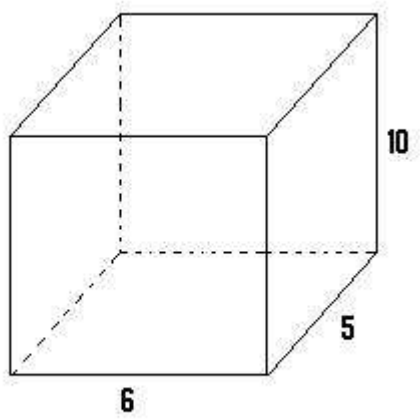
This is the **surface area** of the rectangular prism. We are looking for the **area**.

Assistment

Assistment #25378

You are previewing content.

How many cubic feet is the volume of this box?



Comment on this question

Request Help

Type your answer below (mathematical expression):

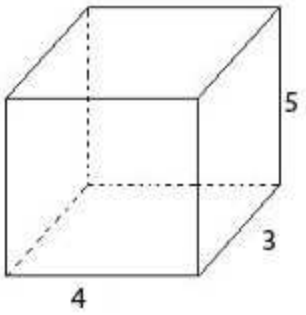
-

Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

How many cubic feet is the volume of the box below?



Solution:

The dimension of the box is 4 x 3 x 5.

volume = **length** * **width** * **height**

Let's pick the **length as 4 ft**, the **width as 3 ft** and the **height as 5 ft**. Notice how we picked each side exactly one time.

volume = **length** * **width** * **height**

volume = **4** * **3** * **5**

volume = 60 ft^3

The volume of the box is 60 ft^3.

Comment on this question

Select one:

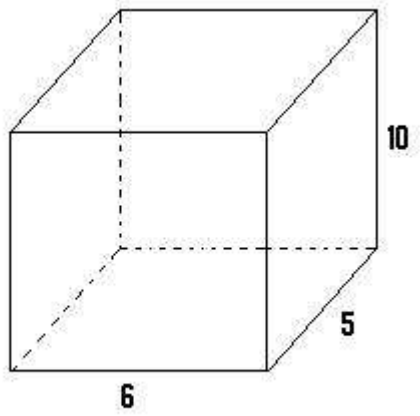
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

How many cubic feet is the volume of this box?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is 300.

Please enter 300.

Comment on this hint

Type your answer below (mathematical expression):

-

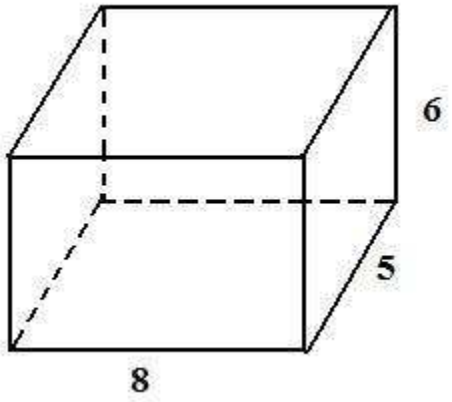
Submit Answer

Assistment

Assistment #25380

You are previewing content.

How many cubic feet is the volume of this box?



Comment on this question

Request Help

Type your answer below (mathematical expression):

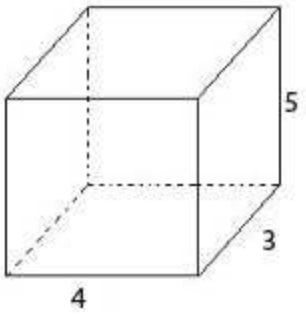
-

Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

How many cubic feet is the volume of the box below?



Solution:

The dimension of the box is 4 x 3 x 5.

volume = **length** * **width** * **height**

Let's pick the **length as 4 ft**, the **width as 3 ft** and the **height as 5 ft**. Notice how we picked each side exactly one time.

volume = **length** * **width** * **height**

volume = **4** * **3** * **5**

volume = **60** ft^3

The volume of the box is **60** ft^3.

Comment on this question

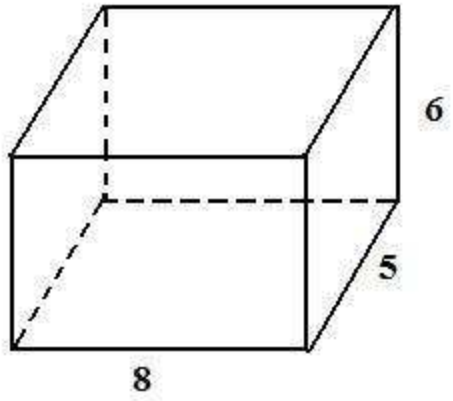
Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!
Now try the original problem again. You may look back at the worked out example if that helps you.

How many cubic feet is the volume of this box?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The volume is 240.

Please enter 240.

Comment on this hint

Type your answer below (mathematical expression):

-

Submit Answer

Assistment

Assistment #25382

You are previewing content.

Daniel made a rectangular prism out of wooden cubes that dimensions 10x4x3. If he built it so that it's height was the largest dimension, how many cubes would fit in one layer at the bottom of the prism?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

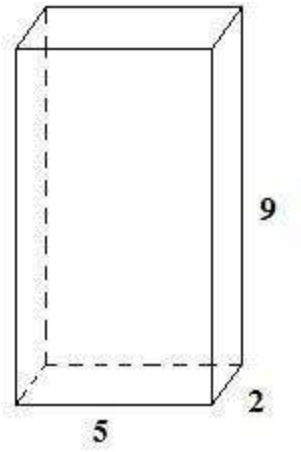
Problem:

Mike made a rectangular prism out of wooden cubes with dimensions 2 x 9 x 5. If he built it so that it's height was the largest dimension, how many cubes would fit in one layer at the bottom of the prism?

Solution:

The dimension of the rectangular prism is 2 x 9 x 5.

If the height is the largest dimension, the height must be 9.



The base of the rectangular prism will have dimension 2 x 5. Lets call its length 5 and its width 2.

The area of the base of the rectangular prism is as follows.

Area of base = length * width

Area of base = 5 * 2

Area of base = 10.

Therefore, 10 wooden cubes will fit into one layer at the bottom of the prism.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Daniel made a rectangular prism out of wooden cubes that dimensions 10x4x3. If he built it so that it's height was the largest dimension, how many cubes would fit in one layer at the bottom of the prism?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

12 cubes will fit in one layer at teh bottom of the prism.

Please enter 12.

Comment on this hint

Type your answer below (mathematical expression):

-

Submit Answer

Assistment

Assistment #25410

You are previewing content.

John made a rectangular prism out of wooden cubes with dimensions 4x6x3. If he built it so that it's height was the largest dimension, how many cubes would fit in one layer at the bottom of the prism?

Comment on this question

Try drawing a picture to start.

Comment on this hint

Remember that there are only 3 different ways to set the box.

Comment on this hint

If the height is 6, the rectangular prism would look like this.

Comment on this hint

The other two sides are 3 and 4.

Comment on this hint

The amount of cubes that can fit in the bottom is equal to the area of the base of the rectangular prism.

Comment on this hint

So, 3*4 = 12 cubes can fit in the bottom.

Please enter 12.

Comment on this hint

Type your answer below (mathematical expression):

-

Submit Answer

Assistment

Assistment #25411

You are previewing content.

John made a rectangular prism out of wooden cubes with dimensions 4 x 6 x 5. If he built it so that it's height was the largest dimension, how many cubes would fit in one layer at the bottom of the prism?

Comment on this question

Request Help

Type your answer below (mathematical expression):

-

Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

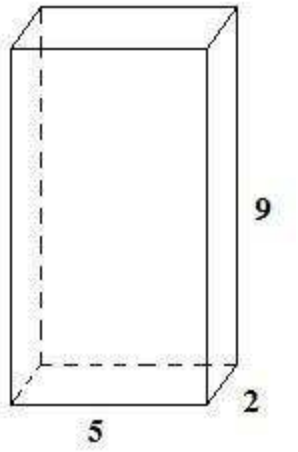
Problem:

Mike made a rectangular prism out of wooden cubes with dimensions 2 x 9 x 5. If he built it so that it's height was the largest dimension, how many cubes would fit in one layer at the bottom of the prism?

Solution:

The dimension of the rectangular prism is 2 x 9 x 5.

If the height is the largest dimension, the height must be 9.



The base of the rectangular prism will have dimension 2 x 5. Lets call its length 5 and its width 2.

The area of the base of the rectangular prism is as follows.

Area of base = length * width

Area of base = 5 *2

Area of base = 10.

Therefore, 10 wooden cubes will fit into one layer at the bottom of the prism.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

John made a rectangular prism out of wooden cubes with dimensions 4 x 6 x 5. If he built it so that it's height was the smallest dimension, how many cubes would fit in one layer at the bottom of the prism?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

20 blocks will fit in one layer at the bottom of the prism.

Please enter 20.

Comment on this hint

Type your answer below (mathematical expression):

-

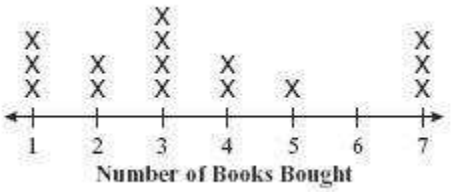
Submit Answer

Assistment

Assistment #24930

You are previewing content.

The line plot below shows the number of books individual customers brought at a bookstore one day.



What was the total number of customers who bought **more than** 3 books?

Comment on this question

Request Help

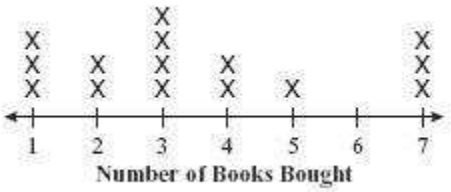
Select one:

- 4
- 6
- 7
- 10

Submit Answer

Let's move on and figure out this problem

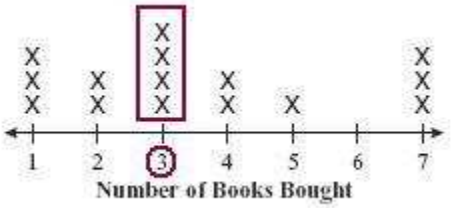
In the line plot, each 'X' represents an individual customer buying the number of books which is under the 'X'.



How many customers bought exactly three books?

Comment on this question

The number of people who bought exactly 3 books is the number of 'X' above 3, as shown in the following picture.



Comment on this hint

Since there are four 'X' above the number 3, there are 4 people who bought exactly 3 books.

Comment on this hint

Type your answer below:

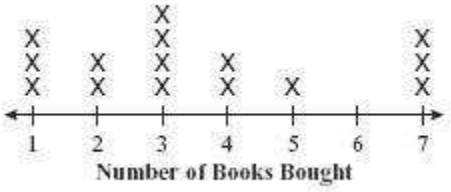
- 4

Submit Answer

Correct!

Now, let's look at how many people bought less than 3 books.

How many people bought less than 3 books?

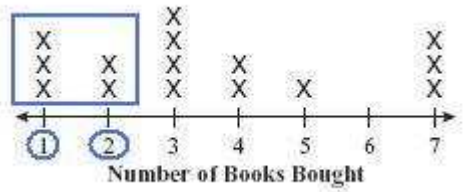


Comment on this question

If a person bought **less than 3** books, they bought **either 1 or 2** books.

Comment on this hint

To see how many people bought either 1 or 2 books, look at the number of 'X' above 1 or 2.



This is shown in the picture in the blue box.

Comment on this hint

Since there are 5 'X' in the blue box representing people who bought either 1 or 2 books, there are 5 people who bought less than 3 books.

Comment on this hint

Type your answer below:

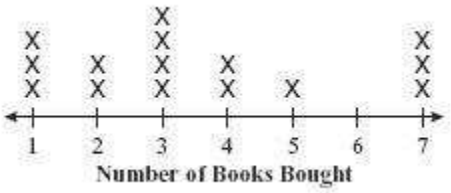
- 5

Submit Answer

Correct!

Now, we will return to the original question.

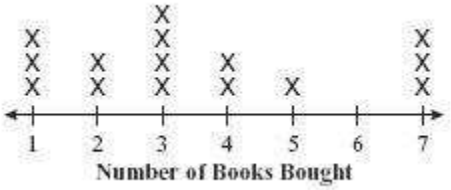
What was the total number of customers who bought **more than** 3 books?



Comment on this question

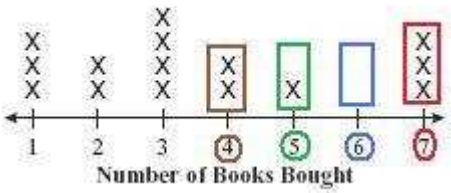
Since 4, 5, 6 and 7 are **more than 3**, a person could have bought either 4, 5, 6, or 7 books.

How many people bought either 4, 5, 6 or 7 books?

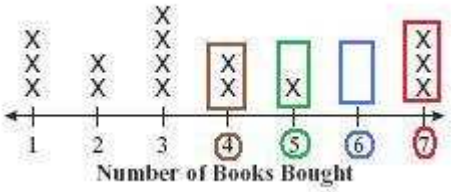


Comment on this hint

The number of people who bought either **4**, **5**, **6** or **7** books, are the number of 'X' above that number.



Comment on this hint



From this, we can see there are 6 people who bought **more than 3 books**.

Please enter 6.

Comment on this hint

Select one:

- 4
- 6
- 7
- 10

Submit Answer

Assistment

Assistment #25463

You are previewing content.

Find the voulme in cubic cm of the given sphere with a diameter of 6 cm. Round to the nearest centimeter cubed.

Comment on this question

The volume of a sphere = $4 / 3 * \pi * r^3$

Comment on this hint

The **radius** is equal to half the **diameter**.

r = 1/2 * **d**.

Since the **diameter** (**d**) is **6cm**, the **radius** is

r = 1/2 * (**6**) = **3 cm**.

Comment on this hint

Voulme = $4/3 * \pi * \mathbf{r^3}$

Volume = $4/3 * \pi * (\mathbf{3*3*3})$

Volume = $4/3 * \pi * (\mathbf{27})$

Volume = $36 * \pi$

Volume = 113.098 cm^3

Comment on this hint

The answer is in cm^3, so if you are rounding to the nearest cm^3 (cubic centimeter), you would be rounding to the nearest whole number.

113.098 rounds down to 113.

Comment on this hint

The volume is 113 cm^3.

Please enter 113.

Comment on this hint

Type your answer below (mathematical expression):

-

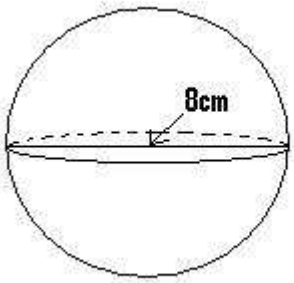
Submit Answer

Assistment

Assistment #25464

You are previewing content.

Find the volume in cubic cm of the given sphere with a diameter of 8 cm. Round to the nearest centimeter cubed.



Comment on this question

Request Help

Type your answer below (mathematical expression):

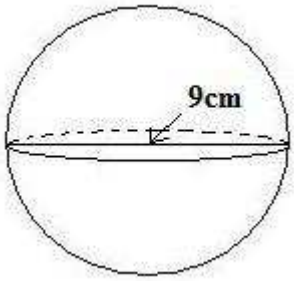
-

Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Find the volume in cubic cm of the given sphere with a diameter of 9 cm. Round to the nearest centimeter cubed.



Solution:

The **volume** of a sphere = 4/3 * π * **r**^{3} where **r** is the **radius** of the sphere.

In this problem, we do not know the **radius**, we only know the diameter. Luckily, we know that the **radius** is 1/2 as big as the diameter.

radius = 1/2 * diameter

r = 1/2 * 9 = **4.5**

Now, we can solve for the **volume** of the sphere.

volume = 4/3 * π * **r**^{3}

volume = 4/3 * π * (**r*****r*****r**)

volume = 4/3 * π * (**4.5*****4.5*****4.5**)

volume = **381.70 cm**^{3}

In this problem, we are asked for the **volume** to the nearest cubic cm, and so we need to round **381.70** to the nearest cm^3.

Since 7 is greater than 5, we are going to round up to **382** cm^3.

The **volume** of a sphere with diameter 9 is closest to be **382 cm^3**.

Comment on this question

Select one:

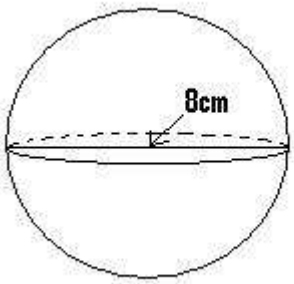
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Find the volume in cubic cm of the given sphere with a diameter of 8 cm. Round to the nearest centimeter cubed.



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The answer is 268 cm^3.

Please type in 268.

Comment on this hint

Type your answer below (mathematical expression):

-

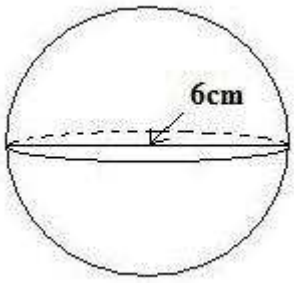
Submit Answer

Assistment

Assistment #25465

You are previewing content.

Find the volume in cubic cm of the given sphere with a diameter of 6 cm. Round to the nearest centimeter cubed.



Comment on this question

Request Help

Type your answer below (mathematical expression):

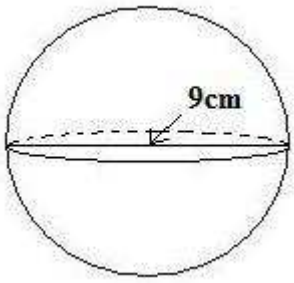
-

Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Find the volume in cubic cm of the given sphere with a diameter of 9 cm. Round to the nearest centimeter cubed.



Solution:

The **volume** of a sphere = 4/3 * π * **r**^{3} where **r** is the **radius** of the sphere.

In this problem, we do not know the **radius**, we only know the diameter. Luckily, we know that the **radius** is 1/2 as big as the diameter.

radius = 1/2 * diameter

r = 1/2 * 9 = **4.5**

Now, we can solve for the **volume** of the sphere.

volume = 4/3 * π * **r**^{3}

volume = 4/3 * π * (**r*****r*****r**)

volume = 4/3 * π * (**4.5*****4.5*****4.5**)

volume = 381.70 cm^3

In this problem, we are asked for the **volume** to the nearest cubic cm, and so we need to round 381.70 to the nearest cm^3.

Since 7 is greater than 5, we are going to round up to **382 cm^3**.

The **volume** of a sphere with diameter 9 is going to be **382** cm^3.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Find the volume in cubic cm of the given sphere with a diameter of 6 cm. Round to the nearest centimeter cubed.

Comment on this question

The answer is 113 cm^3.

Please enter 113.

Comment on this hint

Type your answer below (mathematical expression):

-

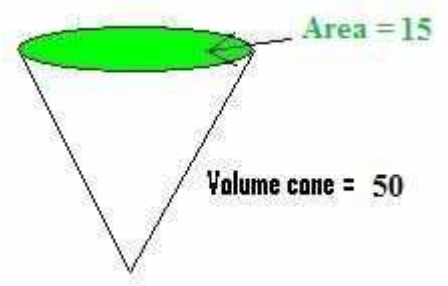
Submit Answer

Assistment

Assistment #25466

You are previewing content.

Suppose the volume of a cone is 50 cm^3. What is its height if the area of the base (circle) on top is 15 cm^2?



Comment on this question

Remember that the volume of a cone is as follows.

volume = 1/3 * **area of circle** * **height**.

Comment on this hint

volume = 1/3 * **area of circle** * **height**.

The **volume** of the cone is **50**, the **area of the circle is 15**, and lets call the **height h**.

50 = 1/3 * **15** * **h**

Now we just need to solve for **h**, the **height**.

Comment on this hint

volume = 1/3 * **area of circle** * **height**.

50 = 1/3 * **15** * **h**

50 = 5 * **h**

Solving for **h**, we get that

10 = **h**

Comment on this hint

The **height** is **10 cm**.

Please enter **10**.

Comment on this hint

Type your answer below (mathematical expression):

-

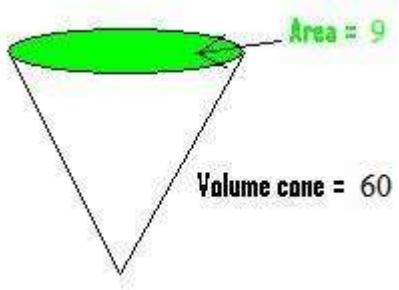
Submit Answer

Assistment

Assistment #25467

You are previewing content.

Suppose the volume of a cone is 60 cm^3. What is its height if the area of the base (circle) on top is 9 cm^2?



Comment on this question

Request Help

Type your answer below (mathematical expression):

-

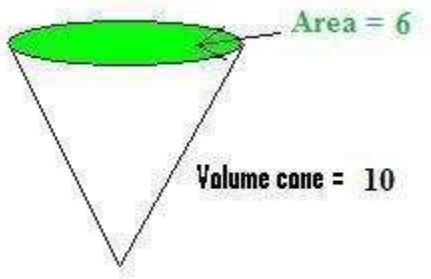
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Suppose the volume of a cone is 10 cm^3. What is its height if the area of the base (circle) on top is 3 cm^2?



Solution:

The volume of a cone = 1/3 * **area of circle** * **height**.

In this problem, we are asked to find the **height**.

We know that the volume of the cone is 10 cm^3 and **the area of the circle is 6 cm^2**. Lets call the **height h**.

If we put these values into the equation for the volume of a cone we get as follows.

volume = 1/3 * **area of circle** * **height**

10 = 1/3 * **6** * **h**.

1/3 of **6** is just 2. So we are left with

10 = 2 * **h**

5 = **h**.

The **height** of the cone is **5 cm**.

Comment on this question

Select one:

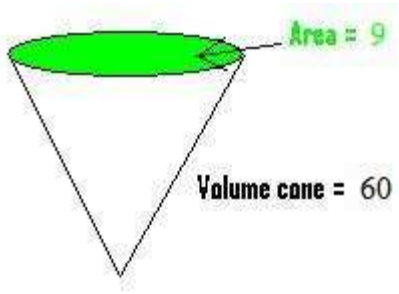
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Suppose the volume of a cone is 60 cm^3. What is its height if the area of the base (circle) on top is 9 cm^2?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The height of the cone is going to be 20 cm.

Please enter 20.

Comment on this hint

Type your answer below (mathematical expression):

-

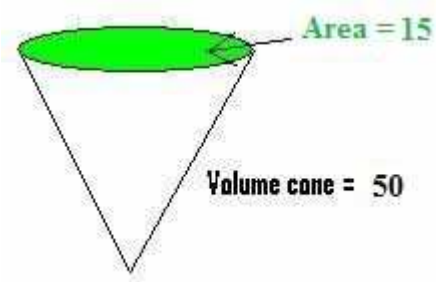
Submit Answer

Assistment

Assistment #25468

You are previewing content.

Suppose the volume of a cone is 50 cm^3. What is its height if the area of the base (circle) on top is 15 cm^2?



Comment on this question

Request Help

Type your answer below (mathematical expression):

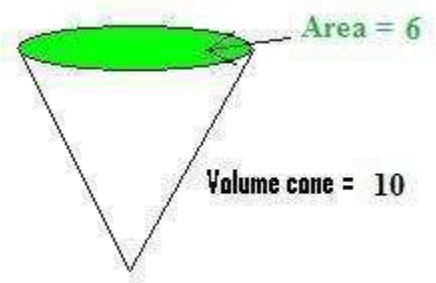
-

Submit Answer

Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Suppose the volume of a cone is 10 cm^3. What is its height if the area of the base (circle) on top is 6 cm^2?



Solution:

The volume of a cone = 1/3 * **area of circle** * **height**.

In this problem, we are asked to find the **height**.

We know that the volume of the cone is 10 cm^3 and the **area of the circle is 6 cm^2**. Lets call the **height h**.

If we put these values into the equation for the volume of a cone we get as follows.

volume = 1/3 * **area of circle** * **height**

10 = 1/3 * **6** * **h**.

1/3 of **6** is just 2. So we are left with

10 = 2 * **h**

5 = **h**.

The **height** of the cone is **5 cm**.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

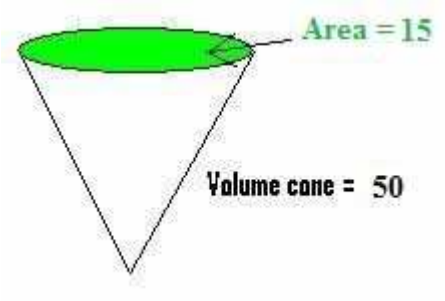
Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

Suppose the volume of a cone is 50 cm^3. What is its height if the area of the base (circle) on top is 15

cm^2?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The height of the cone is going to be 10 cm.

Please enter 10.

Comment on this hint

Type your answer below (mathematical expression):

-

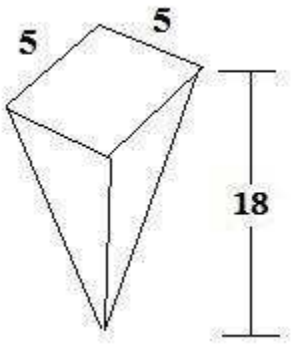
Submit Answer

Assistment

Assistment #25469

You are previewing content.

The Corner Ice Cream Store sells vanilla ice cream in a pyramid shaped container. One container filled just to the top with ice cream costs $5. How much ice cream in cubic cm can you get for $1?



Comment on this question

In order to find the volume of vanilla ice cream you get for $1, you must first find the volume of the ice cream you get for $5.

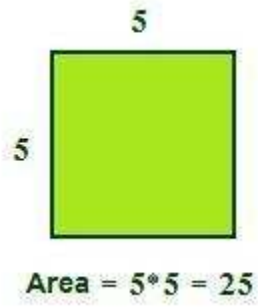
Comment on this hint

Remember that the volume of a cone = 1/3 the area of the base * height

Volume = 1/3 * area of the base * height

Comment on this hint

The base is just a square.



volume of a cone = 1/3 of **25** * height

which is the same as

1/3 of the height * **25**

Comment on this hint

volume = 1/3 of 18 * **25**

volume = 6 * **25**

volume = 150

For $5 you get 150 cm^3 of ice cream.

Comment on this hint

If 150 cm^3 (cubic cm) costs $5 then how much icecream do you get for $1?

Comment on this hint

Request Help

Type your answer below (mathematical expression):

-

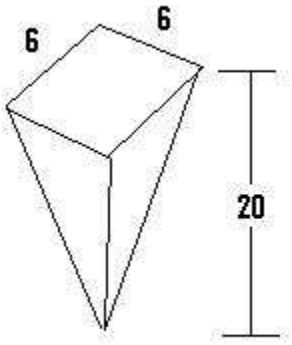
Submit Answer

Assistment

Assistment #25473

You are previewing content.

The frozen yummy store sells frozen yogurt in a pyramid shaped container. One container filled just to the top with frozen yogurt costs $3. How much frozen yogurt in cubic cm can you get for $1?



Comment on this question

Request Help

Type your answer below (mathematical expression):

-

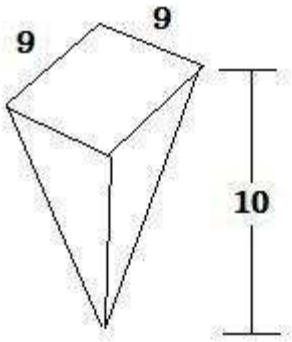
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

The Local Pantry sells slush drinks in a pyramid shaped container. One container filled just to the top with slush costs $3. How much slush in cubic cm can you get for $2?



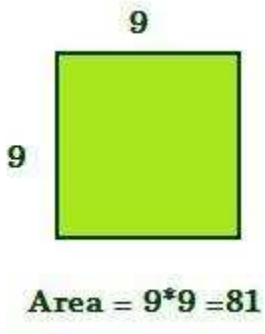
Solution:

A full container of slush costs $3, and we asked how must slush we can get for $2. First, we need to decide how much slush we get for $3.

The **volume of the pyramid shaped container** is:

volume = 1/3 * **area of the base** * **height**.

The base is shown below.



The height is 10 cm.

volume = 1/3 * **area of the base** * **height**

volume = 1/3 * **81** * **10**

volume = 27 * **10** = 270cm^3

For $3 we get 270cm^3 and for $2 we get 2/3 of 270cm^3.

(2/3) * 270 = 180 cm^3

For \$2, we get 180 cm^3 of slush.

Comment on this question

Select one:

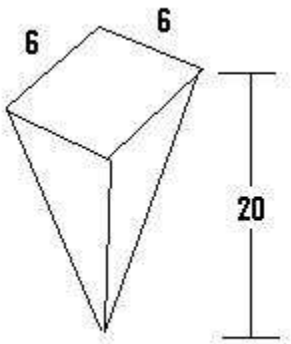
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

The frozen yummy store sells frozen yogurt in a pyramid shaped container. One container filled just to the top with frozen yogurt costs \$3. How much frozen yogurt in cubic cm can you get for \$1?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

For \$1, you get 80 cm^3 of frozen yogurt.

Please enter 80.

Comment on this hint

Type your answer below (mathematical expression):

-

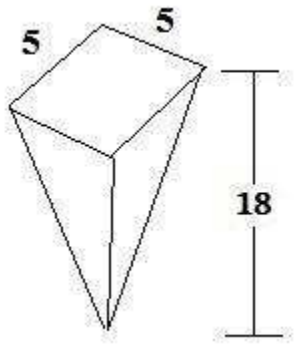
Submit Answer

Assistment

Assistment #25474

You are previewing content.

The Corner Ice Cream Store sells vanilla ice cream in a pyramid shaped container. One container filled just to the top with ice cream costs $5. How much ice cream in cubic cm can you get for $1?



Comment on this question

Request Help

Type your answer below (mathematical expression):

-

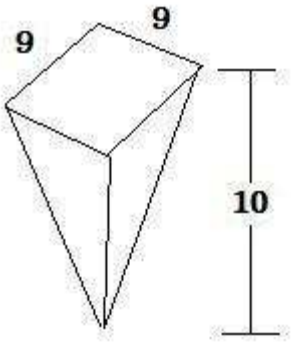
Submit Answer

Let's move on and figure out this problem

Let's look at the solution for a problem similar to the one in the red box above:

Problem:

The Local Pantry sells slush drinks in a pyramid shaped container. One container filled just to the top with slush costs $3. How much slush in cubic cm can you get for $2?



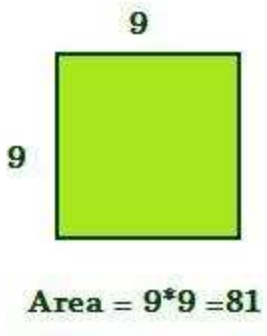
Solution:

A full container of slush costs $3, and we asked how must slush we can get for $2. First, we need to decide how much slush we get for $3.

The **volume of the pyramid shaped container** is:

volume = 1/3 * **area of the base** * **height**.

The base is shown below.



The height is 10 cm.

volume = 1/3 * **area of the base** * **height**

volume = 1/3 * **81** * **10**

volume = 27 * **10** = 270cm3

For \$3 we get 270cm^3 and for \$2 we get 2/3 of 270cm^3.

(2/3) * 270 = 180 cm^3

For \$2, we get 180 cm^3 of slush.

Comment on this question

Select one:

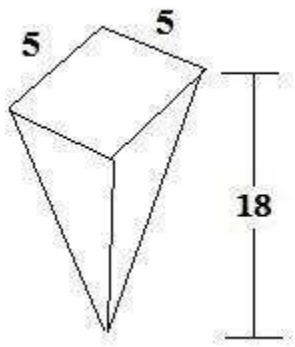
- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

The Corner Ice Cream Store sells vanilla ice cream in a pyramid shaped container. One container filled just to the top with ice cream costs \$5. How much ice cream in cubic cm can you get for \$1?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

For \$1 we get $30cm^3$ of ice cream.

Please enter 30.

Comment on this hint

Type your answer below (mathematical expression):

-

Submit Answer

Assistment

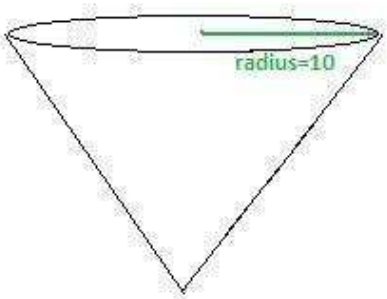
Assistment #25606

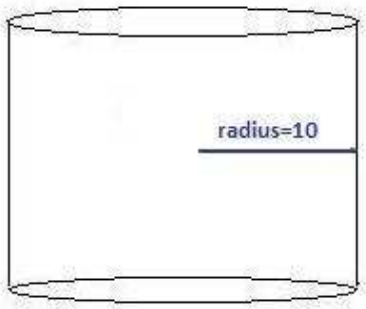
You are previewing content.

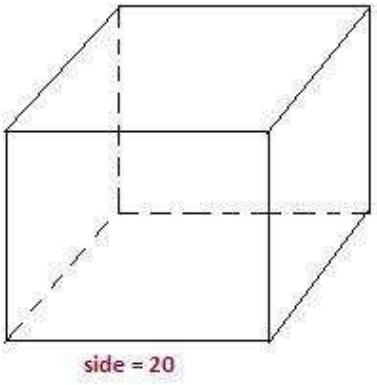
There are 3 water tanks for sale. Each has a height of 20 ft.

One of the sides of the **cube** is 20 ft. The **cone** and the **cylinder** both have radius 10.

Which of the 3 water tanks will have the **smallest** volume?





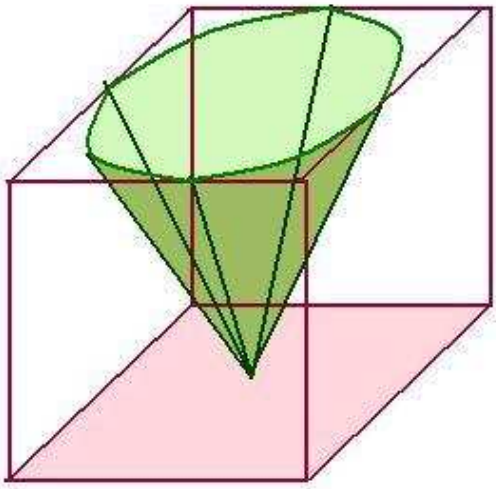


Comment on this question

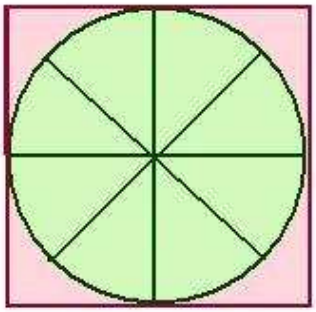
The **cone** and the **cube** both have a height of 20 ft.

The radius of the **cone** is 10, and so its diameter is twice as big, which is 20.

Here are 2 views to help you picture this.



A side view of the cone inside the cube.



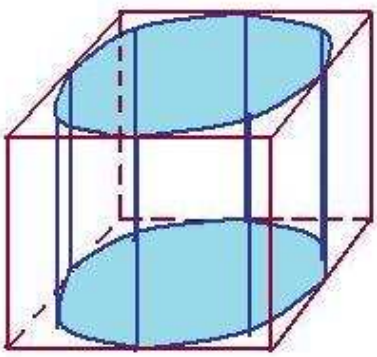
Looking down from the top of the cube.

The **cube** is larger than the **cone**.

Comment on this hint

Now lets compare the **cylinder** to the **cube**.

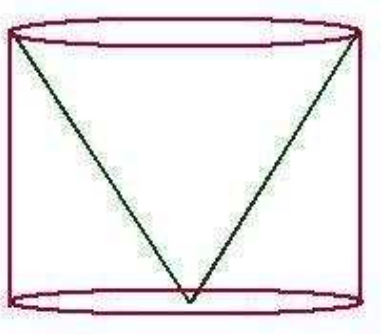
They both have the same height, 20, so we need to check that the circle at the top of the **cylinder** will fit inside the top of the **cube**.



The **cylinder** fits inside of the **cube**, and so the **cube** is larger.

Comment on this hint

Since the **cone** and the **cylinder** have the same height, the **cone** will fit right inside the **cylinder**.



Therefore the **cylinder** is larger than the **cone**.

Comment on this hint

The **cone** fits inside the **cylinder** and the **cylinder** fits inside the **cube**.

Therefore, the **cone** has the smallest volume.

Please select,

Cone

Comment on this hint

Select one:

- Cylinder
- Cone
- Cube

Submit Answer

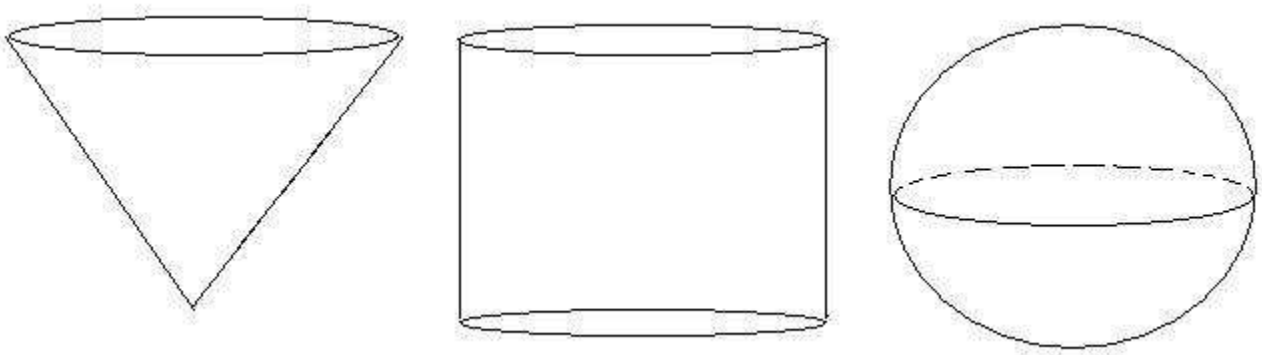
Assistment

Assistment #25608

You are previewing content.

There are three water tanks for sale. Each one has a radius of 7 ft and a height of 14 feet.

Which has the greatest volume?



Comment on this question

Request Help

Select one:

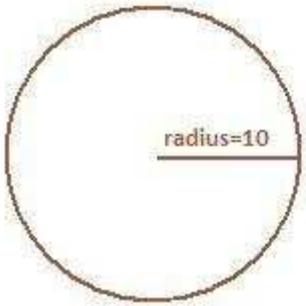
- Sphere
- Cylinder
- Cone

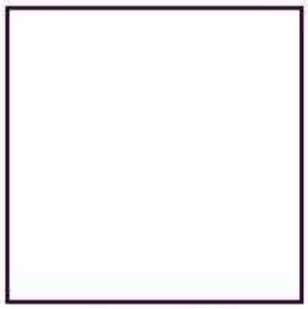
Submit Answer

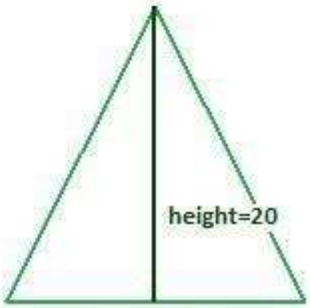
Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Suppose that you are given three shapes. The first is a circle, the second a square and the third is a triangle.







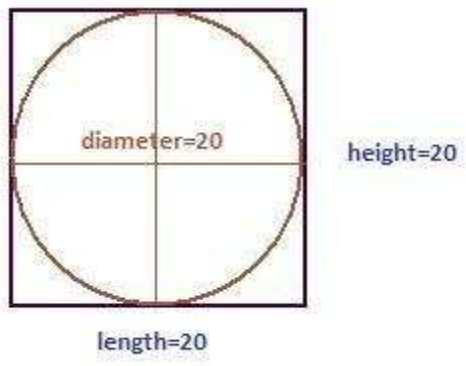
Which of these shapes will have the largest area?

Solution

Lets try to put one shape into another.

The **circle** has radius 10, and its **diameter** is twice as big, so the **diameter is 20**.

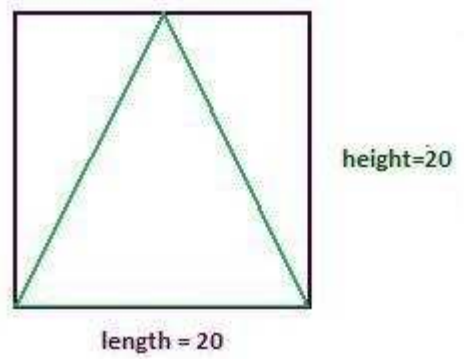
The height of the **circle** is also its **diameter**, and so it will be **20**.



Since the **circle fits inside** the **square**, it can not have the largest area.

Now we need to comapre the **square** and the **triangle**.

The **square has length 20, and height 20**. The **triangle** also has **length and height as 20**.



Therefore, the **triangle fits inside** of the **square**.

The square will have the largest area.

Now, let's do the problem a different way, by calculating areas.

Shape	Area	Area	Area
Circle	pi*r*r	pi * 10 * 10	314
Square	length*height	20 * 20	400
Triangle	1/2*base*height	1/2 * 20 * 20	200

Again we have the square having the largest area.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

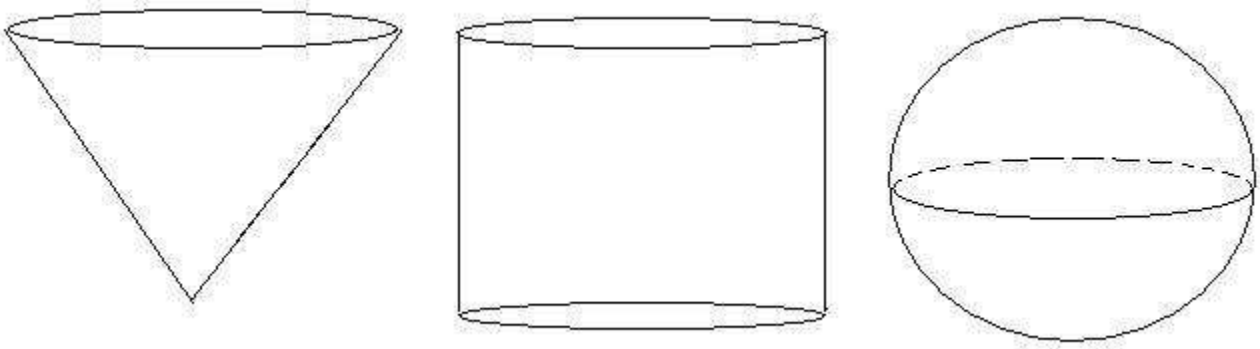
Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

There are three water tanks for sale. Each has a radius of 7 ft and a height of 14 feet.

Which has the greatest volume?



Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

The cylinder has the greatest volume.

Please select:

Cylinder

Comment on this hint

Select one:

- Sphere
- Cylinder
- Cone

Submit Answer

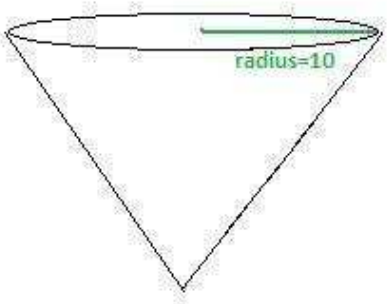
Assistment

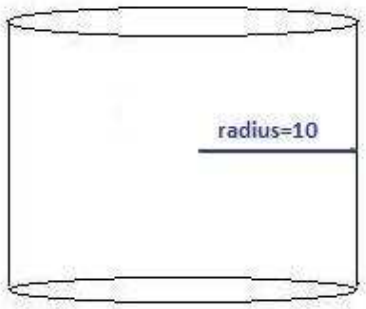
Assistment #25830

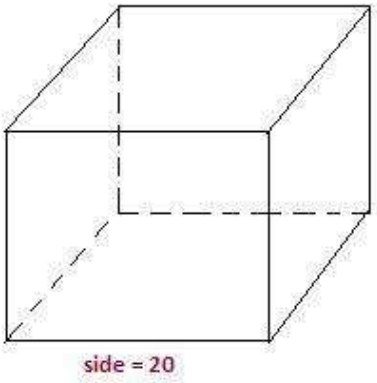
You are previewing content.
There are 3 water tanks for sale. Each has a height of 20 ft.

One of the sides of the **cube** is 20 ft. The **cone** and the **cylinder** both have radius 10.

Which of the 3 water tanks will have the **smallest** volume?







Comment on this question

Request Help

Select one:

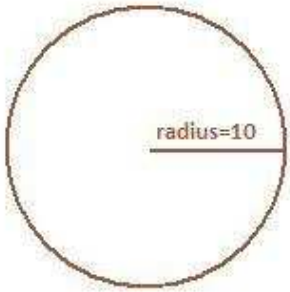
- Cylinder
- Cone
- Cube

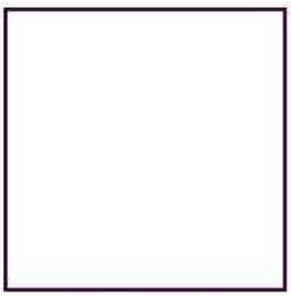
Submit Answer

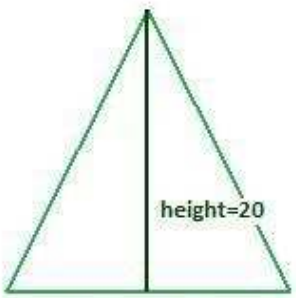
Let's move on and figure out this problem
Let's look at the solution for a problem similar to the one in the red box above:

Problem:

Suppose that you are given three shapes. The first is a circle, the second a square and the third is a triangle.







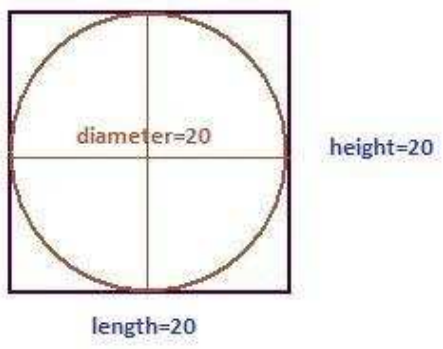
Which of these shapes will have the largest area?

Solution

Lets try to put one shape into another.

The **circle** has radius 10, and its diameter is twice as big, so the **diameter is 20**.

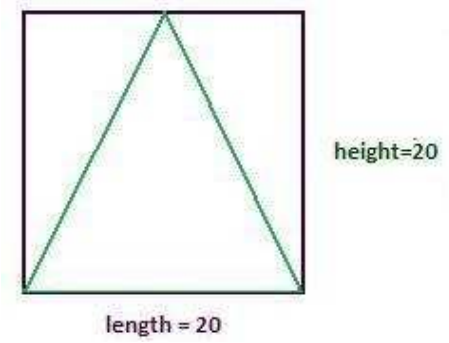
The **height** of the **circle** is also its **diameter**, and so it will be **20.**



Since the **circle fits inside** the **square**, it can not have the largest area.

Now we need to comapre the **square** and the **triangle.**

The **square has length 20, and height 20**. The **triangle** also has **length and height as 20**.



Therefore, the **triangle fits inside** of the **square**.

The square will have the largest area.

Now, let's do the problem a different way, by calculating areas.

Shape	Area	Area	Area
Circle	pi*r*r	pi*10*10	**314**
Square	length*height	20*20	**400**
Triangle	1/2*base*height	1/2*20*20	**200**

Again we have the square having the largest area.

Comment on this question

Select one:

- I have looked at the above problem and am ready to try again.

Submit Answer

Correct!

Now try the original problem again. You may look back at the worked out example if that helps you.

There are 3 water tanks for sale. Each has a height of 20 ft.

One of the sides of the **cube** is 20 ft. The **cone** and the **cylinder** both have radius 10.

Which of the 3 water tanks will have the **smallest** volume?

Do your best, if you cannot get the answer select hint to get the answer so you can go on.

Comment on this question

Request Help

Select one:

- Cylinder
- Cone
- Cube

Submit Answer

Assistment

Assistment #25838

You are previewing content.
Sam is 37 years older than Dennis.

If Sam is 55 years old now, how old is Dennis?

Comment on this question
Request Help

Type your answer below:

-

Submit Answer

Let's move on and figure out this problem

First lets decide who is older.

The problem is "Sam is 37 years older than Dennis. If Sam is 55 years old now, how old is Dennis?"

Who is older?

Comment on this question
The text says "Sam is 37 years older than Dennis."
Comment on this hint
Therefore, Sam is older. Select Sam.
Comment on this hint

Select one:

- Sam
- Dennis

Submit Answer

Correct!
Is Dennis's age greater than 55 or less than 55?
Comment on this question

We know that Sam is 55.

Comment on this hint

We know that Sam is older, so Denis must be less than 55. Select less than 55.

Comment on this hint

Select one:

- Greater than 55
- Less than 55

Submit Answer

Correct!

Which expression should we use to find Dennis's age?

Remember, Sam is 37 years older than Dennis. Sam is 55 years old.

Comment on this question

The problem tells us that Sam is **older** than Dennis, and the problem gives us Sam's age.

Comment on this hint

Since 55+37 > 55, choice A is saying that Dennis is older than Sam. We know that Sam is older than Dennis, and so we can eliminate choice A.

Comment on this hint

Let's look at choice D.

55 / 37 is less than 2 so this says that Dennis is less than 2 years old. If we add 37 years to Dennis' age, we should gets Sam's age which is 55.

2 + 37 = 39 which is not 55, and so we can eliminate choice D.

Comment on this hint

Choice C will give an age that is greater than 55, and this is the wrong choice since we know Dennis is suppose to be less than 55 years old.

Comment on this hint

Choice B gives the correct answer.

We know that Sam is 37 years older than Dennis and so

(Sam's age) = (Dennis's age) + 37 which can rewrite as

(Sam's age) - 37 = (Dennis's age) and since Sam is 55 years old we get

55 - 37 = (Dennis's age)

Please select choice B.

Comment on this hint

Select one:

- A. 55 + 37
- B. 55 - 37
- C. 55 * 37
- D. 55 / 37

Submit Answer

Correct!

Now that we know which operation we should use, let's go back to the original problem.

Sam is 37 years older than Dennis. If Sam is 55 years old now, how old is Dennis?

Comment on this question

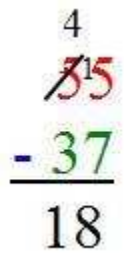
The problem tells us that Sam is 55 years old.

It also tells us that Dennis is 37 years older than Sam.

Comment on this hint

Find 55 - 37

Comment on this hint



Dennis is 18 years old. Type in 18

Comment on this hint

Type your answer below:

-

Submit Answer

Assistment

Assistment #24928

You are previewing content.

Each of the cards below is the same shape and size. The front of each card has a letter on it, and the back of each card is blank. Jack will put them all in a bag and then, without looking, take out one card.

What is the probability that Jack will take out a card with the letter 'T' on it?

Comment on this question

Request Help

Select one:

- A) 1/8
- B) 1/7
- C) 1/4
- D) 1/3

Submit Answer

Let's move on and figure out this problem

First, let's define what probability in this problem means.

A) $\frac{\text{Number of cards with a letter}}{\text{Total number of cards}}$

B) $\frac{\text{Total number of cards}}{\text{Number of cards with 'T'}}$

C) $\frac{\text{The number of cards with 'T'}}{\text{Number of cards that do not have a 'T'}}$

D) $\frac{\text{The number of cards with 'T'}}{\text{Total number of cards}}$

Comment on this question

$$\text{Probability} = \frac{\text{number of successful outcomes}}{\text{total number of outcomes}}$$

Comment on this hint

In this case, a **successful outcome** is picking **a card with a 'T' on it.**

Comment on this hint

The **number of outcomes** is the **number of cards**.

Probability in this case is:

D) The **number of cards with 'T'** divided by the **total number of cards.**

Please select D.

Comment on this hint

Select one:

- A
- B
- C
- D

Submit Answer

Correct!

Now let's find the **numerator.**

$$\text{Probability} = \frac{\text{total number of cards with a 'T'}}{\text{total number of outcomes}}$$

How many cards are there with a **'T'** on them?

Comment on this question

Look at the cards, and count how many have a '**T**' on them.

Comment on this hint

There are 2 cards marked with a '**T**'. They are circled in red in picture below.

Please enter 2.

Comment on this hint

Type your answer below:

- 2

Submit Answer

Correct!

Now let's find the **denominator**.

$$\text{Probability} = \frac{2}{\text{total number of outcomes}}$$

What is the **total number of cards**?

Comment on this question

Count how many cards there are.

Comment on this hint

There are 8 cards.

Comment on this hint

Type your answer below:

- 8

Submit Answer

Correct!

Let's return to the original question.

What is the probability of selecting a card with a '**T**' on it?

Comment on this question

$$\text{Probability} = \frac{\text{total number of cards with a 'T'}}{\text{total number of outcomes}}$$

Comment on this hint

$$\text{Probability} = \frac{\text{number of successful outcomes}}{\text{total number of outcomes}} = \frac{2}{8}$$

However, **2** / **8** is not one of the choices.

Perhaps you need to reduce.

Comment on this hint

$$\text{Probability} = \frac{2}{8} = \frac{2 \boxed{/2}}{8 \boxed{/2}} = \frac{1}{4}$$

The probability of selecting a card with a '**T**' on it is 1/4.

Please select

C) 1/4.

Comment on this hint

Select one:

- A) 1/8
- B) 1/7
- C) 1/4
- D) 1/3

Submit Answer

Assistment

Assistment #26702

You are previewing content.

The table below shows the number of points that each player on a basketball team scored in their last game.

Points Scored

Player	Number of Points Scored
Alex	9
Doug	12
Nick	15
Keith	5
Sam	4

What percent of the total number of points did Alex score?

Comment on this question

Request Help

Select one:

- A. 9%
- B. 20%
- C. 25%
- D. 45%

Submit Answer

Sorry, that is incorrect. Let's move on and figure out why!

If we are to find the percentage of points that Alex scored in the last game, which of the following do we need to know?

1 - Total points the team scored in their last game.

2 - Total points the team will score next game

3 - Total points that Alex scored

4 - Number of people on another team

Comment on this question
We do not need 2 since we are asking about the last game.
Comment on this hint
We do not need 4 since we are concerned with the team Alex is on.
Comment on this hint
We need the number of points Alex scored and the number of points Alex's team scored.

Please select D
Comment on this hint

Select one:

- A) 1 and 4
- B) 3 and 4
- C) 1 , 2 , 3 and 4
- D) 1 and 3

Submit Answer

Correct!

We need to find the number of points Alex scored and the number of points the team scored.

This is shown in which of the following?

Comment on this question
To find the number of points the team scored, add up the scored of each of the players.

There are 5 players on the team.
Comment on this hint
Alex 9 points + **Doug** 12 points + **Nick** 15 points **Keith** 5 points **Sam** 4 points = team's total points
9 + 12 + 15 + 5 + 4 = ?

Alex scored 9 points
Comment on this hint
The team together scored
9 + 12 + 15 + 5 + 4 = **45 points**
Alex scored **9 points.**

Select choice B.
Comment on this hint

Select one:

- A) Alex scored 9 points, the team together scored 36 points
- B) Alex scored 9 points, the team together scored 45 points
- C) Alex scored 0 points, the team together scored 45 points
- D) Alex scored all 45 points, the team together scored 45 points

Submit Answer

Correct!

Which of the following choices will give us the percent of the total number of points that Alex scored?

A

$$\frac{\text{Alex's points}}{\text{Team's points}} * 100\%$$

C

$$\frac{\text{Alex's points} * \text{Team's points}}{100\%}$$

B

$$\frac{\text{Alex's points}}{\text{Team's points}}$$

D

$$\text{Alex's points} * \text{Team's points}$$

Comment on this question

We do not want to multiply Alex's points and the team's points.
This will give us a really big number and will not help us.

Comment on this hint

Choice A and B are possible answers.
Remember that we are asking for the percentage of points Alex scored.

Comment on this hint

Choice A is correct.
This gives us Alex's score out of the team score and multiplying by 100% turns this from a fraction into a percentage.

Comment on this hint

Select one:

- A.
- B.
- C.
- D.

Submit Answer

Correct!

Now we return to our original question.

The table below shows the number of points that each player on a basketball team scored in their last game.

Points Scored

Player	Number of Points Scored
Alex	9
Doug	12
Nick	15
Keith	5
Sam	4

What percent of the total number of points did Alex score?

Comment on this question

We need to find the following.
(Alex points) / (team points) * 100%

Comment on this hint

(9) / (45) * 100% = 0.2 * 100%

Multiplying by 100% is the same as multiplying by 100.

Comment on this hint

Since
0.2 * 100% = 20%
Alex scored 20% of the total number of points.

Please select B. 20%

Comment on this hint

Select one:

- A. 9%
- B. 20%
- C. 25%
- D. 45%

Submit Answer

Assistment

Assistment #27144

You are previewing content.

Meghan bought a box of 30 cookies. She ate 1/3 of them. What is the total number of cookies that Meghan ate?

Comment on this question

Request Help

Select one:

- A. 27
- B. 10
- C. 9
- D. 3

Submit Answer

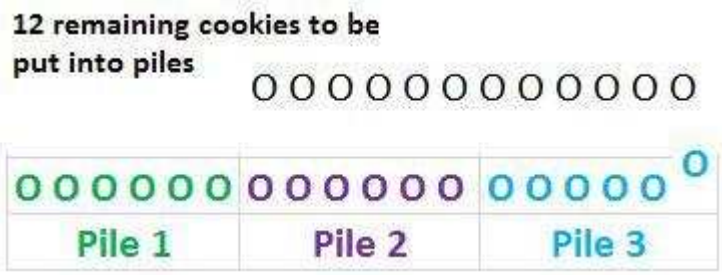
Let's move on and figure out this problem

Let's look at a similiar example.

Meghan has 30 cookies. She wants to put them in six piles. How many cookies will Meghan put in each pile?

Comment on this question

Start putting the cookies one at a time into piles of 6 until you run out of cookies.



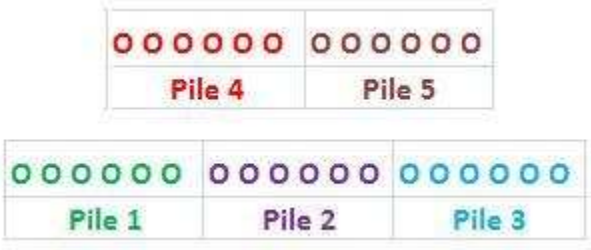
Comment on this hint

Take 6 of the remaining 12 cookies into Pile 4 and then see how many cookies you have left.

How many total piles will you have when all the cookies are placed into piles?

Comment on this hint

There will be 5 piles of cookies as shown below.



Please enter 5

Comment on this hint

Type your answer below:

- 5

Submit Answer

Correct!

Now let's return to our original question.

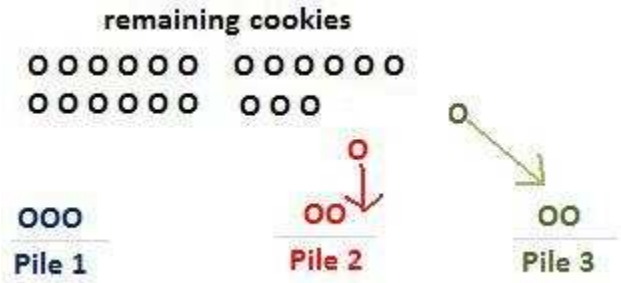
If Meghan was to buy 30 cookies, and she wants to put them into just 3 piles, how many cookies must she put into each pile?

Comment on this question

Place 1 cookie in the first pile, 1 cookie in the second pile, 1 cookie in the third pile and then repeat. When all the cookies are given out, how many are in each pile?

Comment on this hint

There will only be three piles. This shows the piles after some of the cookies have been given out.



Comment on this hint

When all the cookies are gone, there will be 10 cookies in each pile. If we have 3 piles and 10 cookies in each pile then we really do have all 30 cookies.

Please enter 10.

Comment on this hint

Type your answer below (mathematical expression):

- 10

Submit Answer

Correct!

Lets return to the original question.

Meghan bought a box of 30 cookies. She ate 1/3 of them. What is the total number of cookies that Meghan ate?

Comment on this question

Put the cookies into three piles that each contain the same number of cookies.

Comment on this hint

We know that each pile contains 10 cookies, as shown below.

10 cookies in each pile

oooooooooo	oooooooooo	oooooooooo
Pile 1	Pile 2	Pile 3

If Meghan eats 1/3 of the cookies, she will eat all the cookies in one of the three piles. How many cookies will she eat?

Comment on this hint

Since each of the 3 piles contain 10 cookies, and Meghan is going to eat all the cookies in one pile, she will eat 10 cookies.

Please select: B. 10

Comment on this hint

Select one:

- A. 27
- B. 10
- C. 9
- D. 3

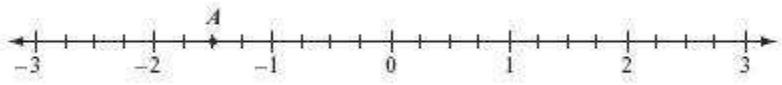
Submit Answer

Assistment

Assistment #27173

You are previewing content.

What number best represents the location of point **A** on the number line below?



Comment on this question

Request Help

Type your answer below (mathematical expression):

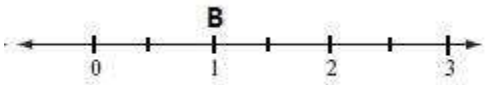
-

Submit Answer

Let's move on and figure out this problem

Lets try to do looking at another number line first.

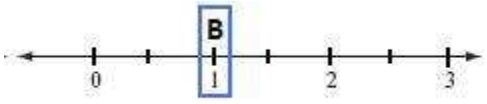
What number best represents the location of point B in the number line below?



Comment on this question

Each tick mark represents the location of a number.

Comment on this hint



Look at which number the tick mark in the blue box represents.

Comment on this hint

Since there is a 1 in below the tick mark where **B** is, the location of **B** is best represented by 1.

Please enter 1.

Comment on this hint

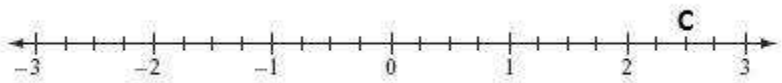
Type your answer below (mathematical expression):

- 1

Submit Answer

Correct!

What number represents C in the following picture?



Comment on this question

Look at the two numbers that point **C** is between.

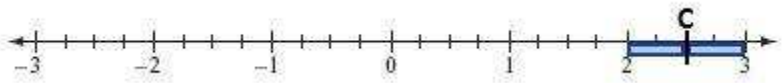
Comment on this hint

Point **C** is between **2** and **3** on the number line.

Now look at what tick mark point **C** is above.

Comment on this hint

We draw two equal sized boxes around point **C**.



We can see that point **C** is **halfway** between **2** and **3**.

What number is **halfway** between **2** and **3**?

Comment on this hint

Since 2.5 is **halfway** between **2** and **3,** point **C** is located at 2.5.

Please enter 2.5.

Comment on this hint

Type your answer below (mathematical expression):

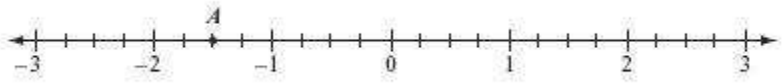
- 2.5

Submit Answer

Correct!

Now let's return to the original question.

What number best represents the location of point A on the number line below?

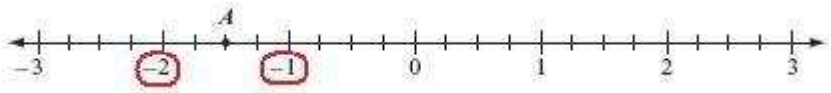


Comment on this question

Think of what two numbers point **A** is between.

Comment on this hint

Point **A** is between **-2** and **-1** which is shown below.

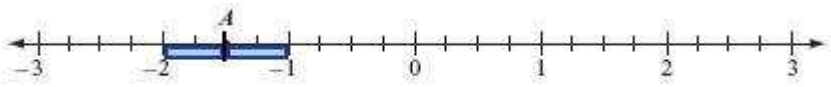


Comment on this hint

Try to draw boxes around point A to see how far from **-2** and from **-1** position **A** is.

Comment on this hint

We can draw two equal boxes around point **A**. This means point **A** is halfway between **-2** and **-1**.



Comment on this hint

Since -1.5 is halfway between **-2** and **-1** we see that the number that best represents the position of location **A** is -1.5.

Please enter -1.5

Comment on this hint

Type your answer below (mathematical expression):

-

Submit Answer