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### An optometer device adapted to a phoropter

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## **An optometer device adapted to a phoropter**

### **Abstract**

An optometer device adapted to a phoropter

### **Degree Type**

Thesis

### **Degree Name**

Master of Science in Vision Science

### **Committee Chair**

C.B. Pratt

### **Subject Categories**

Optometry

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An Optometer Device Adapted  
to a Phoropter

Presented to Dr. C.B. Pratt  
in partial fulfillment of the  
requirements for the  
degree of Doctor of Optometry

Presented by  
"J" "K" Berry  
Maurice S. Dorsett  
Robert J. Luneburg

in the  
Spring Semester 1962

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## Introduction

The purpose of this thesis was two fold: 1) to see if an optometer device adapted to a phoropter testing situation is practical and valid, 2) to see if there is any difference in response with respect to acuity size.

We tested 30 subjects, all but one of which were optometry students and therefore experienced observers. The age ranged from 18 to 33 with a mean of 24.7 years. Of the 30 subjects 12 were myopes, three of which wore contacts, three emmetropes, and 15 hyperopes.

Each of the three examiners tested ten subjects. The testing was begun after each of the examiners acquired proficient skill in the procedure outlined.

All testing was done with a single green phoropter in room 23 in the Pacific University Optometry Clinic. Illumination consisted of the two bottom switches and the phoropter light, all of which was measured to be 35 foot candles at the plane of the targets.

## Examination Procedure

### I. General Information

1. Record name, age, and date.

### II. "P" Factor

1. Determine "P" factor from the following formula using the patients most recent visual examination.

$$\text{"P"} = \frac{(\#7a) + (\#7 - .50) + (\text{Red green}) + (\#4)}{4}$$

### III. Pupillary distance

1. Determine the far Pd by the light reflex method.
2. Determine near Pd by subtracting 4 mm from the far Pd.

### IV. Testing Procedure (rounded to nearest $.12^D$ using 35 ftc. illum)

1. Near Cylinder Test - The target is a reduced snellen 20/20 line of letters. Occlude O.S. and add plus to blur out and recovery. Occlude O.D. and add plus to blur out and recovery. Change the target to a 90-180 cross grid and occlude the O.S. Ask if the vertical or horizontal lines are darker. If vertical, set axis at  $180^\circ$  and if horizontal, set the axis at  $90^\circ$ . In both cases add minus cylinder asking subject when the opposite lines are darker. Go beyond this point  $.25^D$  then reduce cylinder power until the original lines are darker. Record the mid-point of these reversals as minus cylinder (no axis recorded yet). Now change to a 45-135 cross grid. Ask if the up-to-right or up-to-left lines are darker. Turn axis slowly away from the darker lines until reversal. Turn opposite direction until we have a reversal again. Repeat this procedure until a definite range is established and record the mid-point of this range as the axis. If equal stop here and leave axis at this position; if not equal, turn axis  $5^\circ$  in indicated direction and leave in this position. After determining the power and axis on the O.D. repeat the same procedure on the O.S.
2. Take the #14a using the alternate occlusion method.
3. Take the 15a from B.I. to B.O. and then from B.O. to B.I.
4. Take the #14b combined with  $5^A$ B.I. before each eye.
5. Take the #14b.
6. Take the #14b combined with  $5^A$ B.O. before each eye.
7. Take the #14b.
8. Take the #14b combined with the heavy chevron.
9. Determine the base by averaging steps #5, 7, and 8 to the nearest  $1/4^D$ .

### V. Optometer series (rounded to nearest $.12^D$ using 35 ft. candles illumination)

1. Using the 20/20 optometer card we set  $14^A$ B.U. O.D. combined with  $\pm .75$  cross cylinder with the plus axis  $45^\circ$ . There are no cross cylinder or prisms before the O.S. Using the base with its aniso, put the base before the O.S. and the base  $-.50^D$  before the O.D.

**Instructions:** Ask them if they can see two vertical black lines and to report if they ever see more than two of them. Occlude the O.D. and ask the patient to keep these letters clear and report if they ever blur. Next occlude the O.S. and ask them not to look directly at the chevron during the testing. Now with both eyes uncovered instruct the patient to look at the letters and to report whether the right or left arm of the chevron is the darkest and more distinct after each lens change. Do not look directly at the lines.

**Procedure:** The left should now be darker, if not, reduce the plus before the O.D. We now add plus to the O.D. until they reverse and record the reversal to the nearest  $.12^D$ . Add  $+1.00^D$  to O.S. and deduct  $+.25^D$  from O.D. and repeat the above procedure. Repeat with  $+2.00^D$ . Flip cross cylinder to plus axis  $135^\circ$  and repeat again with  $+2.00^D$ . In this case we reduce plus to reversal. Reduce O.S. to  $+1.00^D$  and add  $+.25^D$  to O.D. and repeat. Use this same procedure using the base,  $-1.00^D$ ,  $-2.00^D$ , and  $-3.00^D$ . Leave O.S. at  $-3.00^D$  and reduce O.D. by  $+.25^D$ . Flip cross cylinder to plus axis  $45^\circ$  and left set should be darker. Go to reversal, add  $+1.00^D$  to O.S. and reduce O.D. by  $+.25^D$ . Repeat at  $-2.00^D$ ,  $-1.00^D$ , and the base. Repeat this procedure with the other optometer cards. If the target doubles add lateral prism (B.I. on plus side or B.O. on minus side) and reduce it to  $10^\Delta$  B.O. or B.I. if possible.

## VI. Phorias

1. The target is a reduced snellen 20/20 line using  $14^\Delta$  B.D. O.S. and recording phoria from B.I. and from B.O. We use these controls in the following order: base,  $+1.00^D$ ,  $+2.00^D$ ,  $+2.00^D$ ,  $+1.00^D$ , base,  $-1.00^D$ ,  $-2.00^D$ ,  $-3.00^D$ ,  $-3.00^D$ ,  $-2.00^D$ ,  $-1.00^D$ , base.



### Target Discription

The optometer targets were devised with suggestions from Dr. Pratt and Dr. Haynes as they had experimented with similar targets. The cards were made 9 1/2" x 11" so that the subject could not see the edges of the card. (The field @16" through the Green's phoropter without turning the eyes is approximately 6" to 6 1/2" in diameter). The vertical black lines were ruled on with India ink with 1 1/16" between the lines and 1 5/16" between their outer edges and the width of each line being 1/8". The line of letters (20/20, 20/40, and 20/80) were cut from the Bausch and Lomb reduced Snellen card and glued to the card so that they appeared straight ahead. These letters had an overall height of .8mm, 1.2mm, and 2.4mm respectively. The chevron was cut from the bold cross grid card available at the Pacific University Book Store and glued on the card with its bottom edge 5.2 cm above the top of the line of letters. The chevron's lines are .9 mm wide with a .7 mm space in between the lines. As the patient sees the field the chevron is approximately 1.1° peripheral from the line of letters. With approximately 14<sup>A</sup> base up before the right eye its view is displaced down so that the chevron is just above the line of letters seen by the left eye. With the left eye viewing the letters any change in power before the left eye is a change in the stimulus to accommodation. Peripherally the chevron is equalized by means of a crossed cylinder. †.75 cross cylinder was used because the chevron is peripheral and larger than normally used. These were made by gluing two †.37 crossed cylinder together. The resulting change in power for the right eye is a measure of the

response of accommodation due to the change in stimulus for the left eye.

Figure 1, page 6 shows the view seen by the left eye with a 6 1/2" field centered around the line of letters. The right eye sees the same view but with a 6 1/2" field centered around the chevron. The subject when fusing the two vertical black lines which are common, sees the composite photo seen in Figure 2, page 6. The phoria card is the same as the 20/20 optometer card, but with no vertical lines. Figure 3 shows both sides of the card used for the near cylinder test and standard cross cylinder tests. These two are available at the Pacific University Book Store and were glued back to back. The diagonal cross grid was used for the 14B with and without prism using again the  $\pm .75$  crossed cylinders.

figure 3

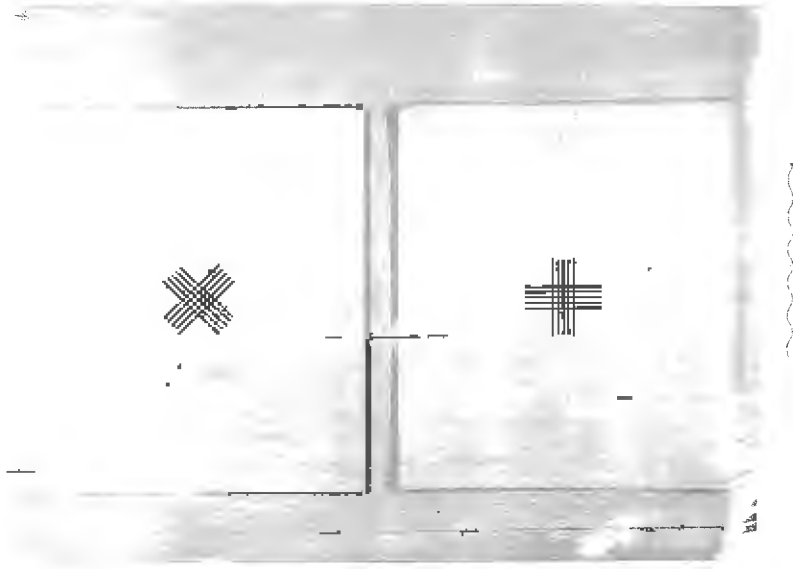


figure 2

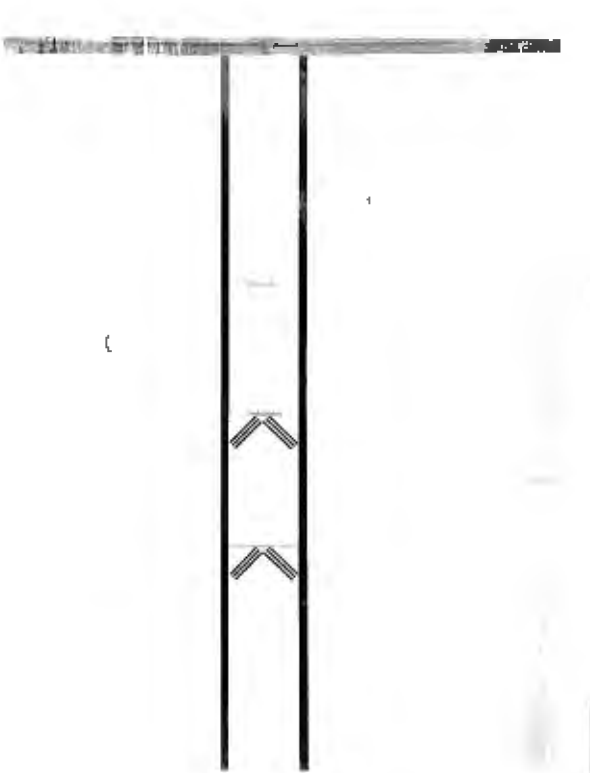
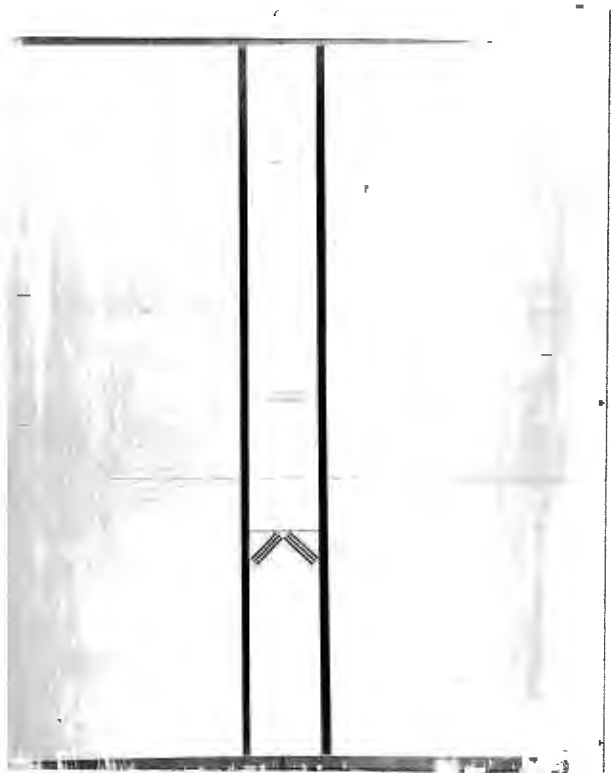


figure 1



Calculations  
and  
Data Sheet

The  $14B^+$ ,  $14B^-$ ,  $14BC$ chevron, Base,  $14BC10^{\Delta}$ B.I. and  $14BC$   
 $10^{\Delta}$ B.O. were plotted on the small graph in the lower left  
corner of the data sheet. The findings with B.O. and B.I. prism  
were connected with the mid-point of the  $14B^+$  and  $14B^-$ . Then  
parallel dotted lines were drawn through the base point. If  
prism was used in any optometer findings we could easily find  
by how much the base and stimulus should be altered, and the  
resultant response plotted on the large graph in the lower  
right corner of the data sheet.

The optometer data (upper-right) was plotted. On the  
response vs. stimulus graph (lower-right) the base is represented  
at the intersection of abscissa and ordinate. The abscissa  
represents the response with increasing accommodative response  
to the right. The ordinate represents the stimulus with increasing  
stimulus upward. If, then, the response were equal to the  
stimulus the point would be plotted on the diagonal one-to-one  
(45 ) line. In general, the response was less than the stimulus  
and the plotted line was more vertical. The lines representing  
20/80, 20/40, and 20/20 were drawn in color code by the best fit  
method. To determine these points we took the average of the  
two (three in the case of base) optometer response end points  
for that stimulus and entered the net (from base) in the table  
in the center of the page. If the subject noted the letters  
were blurred we denoted it by perentthesis. If, because prism  
was used, the line on the graph did not reach that stimulus

point we denoted it by a dash in the table. Since the phorias were taken one from excessive B.I. and one from excessive B.O., at each diopter stimulus in each direction of the cycle, we had 4 (6 in the case of base) phorias to average. This average was corrected for the distance of the prisms in front of the center of rotation of the eye by the factor .85, rounded to the nearest  $1/4D$ , and entered in the table corresponding to the stimulus step. Note: The 15A is not corrected.

The graph to the center right shows the corrected phorias plotted relative to stimulus (solid line) and relative to net response (dotted line). The base and orthophoria form the crossing point with increasing stimulus or response to the right and increasing exophoria upward.

All data and calculations are recorded on each individual data sheet and all statistics done by taking results from the data sheets.

## General Statistics

In general, in the statistics we were interested in differences and not absolute values. The notation -3 -2 for instance, indicates the difference between the response at  $-3^{\text{D}}$  stimulus and  $-2^{\text{D}}$  stimulus, or the difference between the phoria at  $-3^{\text{D}}$  stimulus and  $-2^{\text{D}}$  stimulus taken from the table.

In the case of response equals stimulus (R=S) or the crossing point on the graph, this was taken from the graph by visual inspection as the point where the line crossed the one-to-one line.

The results of the statistics are given in table form, showing the mean, number, standard deviation, mode and median. The number in some cases is less than 30 because the net responses denoted as blurred or prism in place were not included.

The following items were plotted against each other to see if there was any justification in calculating the correlation coefficient, but they all formed a symmetrical circular plot: 20/20 response vs. 14B<sup>+</sup>-P; Age vs. 20/20 response; phoria/sphere (stimulus) vs. 20/20 response; and age vs. phoria/sphere (stimulus).

TABLE I

Base point measures.

(A) Difference between base point measures and "P"					
BASE POINT	MEAN	N	S	MODE	MEDIAN
14A-P	+1.40	30	.212	+1.75/1.87	+1.50
14B+-P	+.84	30	.223	+.62	+.87
14B--P	+.84	30	.222	+.87	+.87
CH-P	+.55	30	.198	+.37	+.37
B-P	+.72	30	.206	4 modal	+.62
(B+2)-P	+2.72	30	.209	4 modal	+2.62
P	-.383	30	1.47	0	0/+.12

(B) Difference between base point measures					
BASE POINT	MEAN	N	S	MODE	MEDIAN
14B+-14B-	0	30	.252	0	0
14B+-CH	+.312	30	.326	+.25	+.25
14B+-B	+.125	30	.252	+.125	+.125
14B- CH	+.296	30	.324	+.25	+.25
14B- B	+.125	30	.250	+.125	+.125
CH-B	-.171	30	.206	-.125	-.125

TABLE II

14B with  $10^{\Delta}$  B.I. and  $10^{\Delta}$  B.O.

(A)					
CROSS CYLINDER TEST	MEAN	N	S	MODE	MEDIAN
14B <sup>+</sup> BI	.421	30	.300	+.250	+.375
BO	.508	30	.340	+.250	+.500
14B <sup>-</sup> BI	.421	30	.402	+.750	+.375/.500
BO	.508	30	.305	+.500	+.500
14B <sup>1</sup> BI	.417	30	.329	+.625	+.375
BO	.513	30	.300	+.375	+.375/.500

<sup>1</sup>Mid-point

(B) Diopters of change in accommodation per corrected prism value (factor.85).

PRISM	CHANGE
BI	.05 D/ $\Delta$
BO	.06 D/ $\Delta$

TABLE III

Response equals stimulus (crossing point on graph)

TARGET	MEAN	N	S	MODE	MEDIAN
20/80	0	30	.655	+.37	+.06
20/40	0	30	.625	0	0
20/20	-.125	30	.785	0	0

TABLE IV

Response for each diopter change in stimulus.

(A)

CHANGE IN STIMULUS		MEAN	N	S	MODE	MEDIAN
from	to					
-3.00	-2.00	+.385	13	.355	+.50	+.50
-2.00	-1.00	+.360	25	.289	+.125/.25	+.25
-1.00	Base	+.380	29	.326	+.12	+.37
Base	+1.00	+.340	29	.249	+.25/.37	+.37
+1.00	+2.00	+.184	19	.247	+.37	+.25
individual mean*		+.346	30	.217	+.50	+.37

The above findings were taken on a 20/20 target.

(B)

CHANGE IN STIMULUS		MEAN	N	S	MODE	MEDIAN
from	to					
-3.00	-2.00	+.368	18	.370	+.125	+.37
-2.00	-1.00	+.367	29	.382	+.25	+.25
-1.00	Base	+.384	30	.312	+.50	+.50
Base	+1.00	+.304	30	.224	+.125/.25	+.25
+1.00	+2.00	+.234	23	.257	4 modal	+.25
individual mean*		+.338	30	.210	+.125/.375	+.37

The above findings were taken on a 20/40 target.

(C)

CHANGE IN STIMULUS		MEAN	N	S	MODE	MEDIAN
from	to					
-3.00	-2.00	+.369	20	.310	+.50	+.37
-2.00	-1.00	+.293	29	.360	+.125	+.25
-1.00	Base	+.430	30	.312	+.50	+.50
Base	+1.00	+.354	30	.241	+.250	+.25
+1.00	+2.00	+.174	23	.648	0	+.125
individual mean*		+.317	30	.193	+.125/.50	*.25

The above findings were taken on a 20/80 target.



TABLE V

Difference in response for various acuity sizes.

(A) 20/20 to 20/40

CHANGE IN STIMULUS from	STIMULUS to	MEAN	N	S	MODE	MEDIAN
-3.00	-2.00	0	12	.412	0	0
-2.00	-1.00	-.065	25	.358	0	0
-1.00	Base	-.022	29	.326	-.125	-.125
Base	+1.00	+.056	29	.261	-.125	+.125
+1.00	+2.00	-.099	19	.285	0	-.125
individual mean*		+.083	30	.141	0	0

(B) 20/20 to 20/80

CHANGE IN STIMULUS from	STIMULUS to	MEAN	N	S	MODE	MEDIAN
-3.00	-2.00	+.083	12	.326	+.125	+.125
-2.00	-1.00	+.025	25	.386	-.125	0
-1.00	Base	-.056	29	.345	-.125	-.125
Base	+1.00	-.017	29	.278	+.125	0
+1.00	+2.00	-.013	19	.261	+.125	0
individual mean*		+.029	30	.145	+.125	0

(C) 20/40 to 20/80

CHANGE IN STIMULUS from	STIMULUS to	MEAN	N	S	MODE	MEDIAN
-3.00	-2.00	+.086	16	.214	0	0
-2.00	-1.00	+.074	29	.329	+.25	+.125
-1.00	Base	+.008	30	.295	0	0
Base	+1.00	-.050	30	.292	0	0
+1.00	+2.00	+.063	22	.310	+.125	+.125
individual mean*		+.021	30	.118	0	0

TABLE VI

The groups of responses on 20/20 target.

GROUPS	MEAN	N	S	MODE	MEDIAN
Lower	+.1125	10	.092	+.125	+.125
Middle	+.350	10	.099	+.25/.375	+.375
Upper	+.575	10	.121	+.50	+.50

TABLE VII

## Phoria Sphere.

## (A) Stimulus

CHANGE IN STIMULUS from	STIMULUS to	MEAN	N	S	MODE	MEDIAN
-3.00	-2.00	2.86	30	1.56	2.25	2.625
-2.00	-1.00	3.06	30	2.02	1.75	2.50
-1.00	Base	3.36	30	1.95	3.50	2.875
Base	+1.00	3.24	30	2.16	1.00	3.25
+1.00	+2.00	1.87	30	2.38	.75	1.50
individual mean*		2.89	30	1.36	2.50	2.79
All		2.88	180	4.75	1.75/2.25	2.48

## (B) Response

CHANGE IN STIMULUS from	STIMULUS to	MEAN	N	S	MODE	MEDIAN
-3.00	-2.00	2.00	12	11.1	-----	4.00/4.25
-2.00	-1.00	8.87	23	11.3	4.75	6.00
-1.00	Base	9.20	29	19.1	28.00	5.75
Base	+1.00	11.35	29	10.2	4.00	8.00
+1.00	+2.00	4.87	17	8.25	-----	4.00
individual mean*		10.75	27	10.8	3.50	6.50

## (C) Change in ACA when changing from stimulus to response.

CHANGE IN STIMULUS from	STIMULUS to	MEAN	N	S	MODE	MEDIAN
-3.00	-2.00	+ .145	12	12.25	+ .50	+1.75
-2.00	-1.00	+ .528	23	11.53	+4.50	+4.50
-1.00	Base	+7.08	26	18.35	0	+3.75
Base	+1.00	+8.175	29	9.02	+3.00	+5.25
+1.00	+2.00	+5.53	17	5.15	3 modal	+3.75
individual mean*		+7.84	27	9.92	+1.85	+3.75

## \*Individual Mean:

Calculated by using the mean of the change in response for the change in 1 diopter stimulus, then taking the mean of these five 1 diopter changes.

## Discussion

## TABLE I

It is noted in table I that  $14B^+$  and  $14B^-$  are equal. We don't really expect a difference because  $14B^-$  is taken after  $14BC10^{\Delta}$  B.O. rather than from minus. The chevron is approximately  $1/4^{\Delta}$  and the base  $1/8^{\Delta}$  below  $14B^{\pm}$ .

Five subjects were expected to blur out at base plus  $2.00^{\Delta}$ , because this was greater than "P" plus  $3.25^{\Delta}$  for them. We would expect a reduction in the phoria sphere when the subject blurred due to a drop in response. This number of subjects is not significant enough to change our statistics.

All of this data was arrived at by using the sphere of the right eye only.

## TABLE II

The B.O. is a little greater than the B.I. as is expected. The CAC when calculated from  $14B^+$ ,  $14B^-$ , and mid-point show no significant differences.

## TABLE III

Since the crossing point is zero we can conclude that the base point is reasonably valid.

## TABLE IV

In all three acuity sizes we find the greatest change in response per diopter change in stimulus (R/S) at  $-1.00$  and base; the R/S becomes less as we get farther from the base especially in the plus direction.

Looking at the mean for each acuity size we find no significant difference, but the 20/20 had a slightly greater R/S.

TABLE V

We find no significant difference in response with different acuity sizes. We expected to find a greater acuity response in smaller acuity sizes especially as we got farther from the base.

TABLE VI

We divided the subjects into three groups on the 20/20 mean responses and arrived at a median response of  $1/8^D$ ,  $3/8^D$ , and  $1/2^D$  for the lower, middle, and upper groups respectively.

TABLE VII

The phoria sphere as expected was found to be greatest at  $-1.00^D$  from base and became lower as we go farther from the base especially in the plus direction. The mean of  $2.89^{\Delta}/1^{\Delta}$  is less than the  $4^{\Delta}/1^D$  as is the expected average.

We get the ACA relative to response by dividing the change in phoria per diopter change in stimulus by the change in response for that diopter change in stimulus. This gives a phoria sphere significantly higher than the  $4^{\Delta}/1^D$  expected. There were subjects who had a definite change in phoria without a change in response. The change in phoria sphere when changing from stimulus to response is therefore also greater than the expected change.

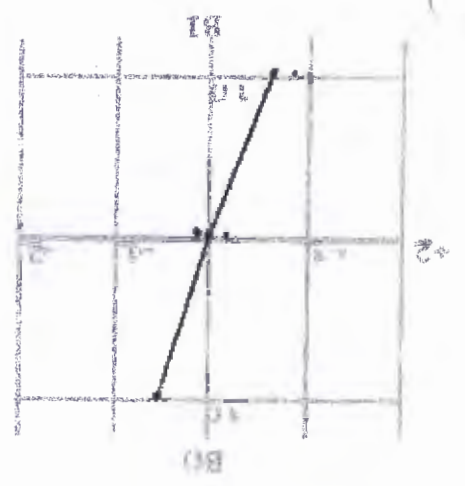
### Conclusion

We can conclude that there is no significant difference in different acuity sizes for the response in accommodation to the change in stimulus.

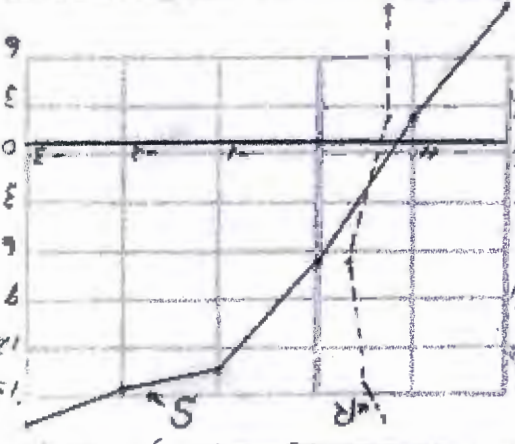
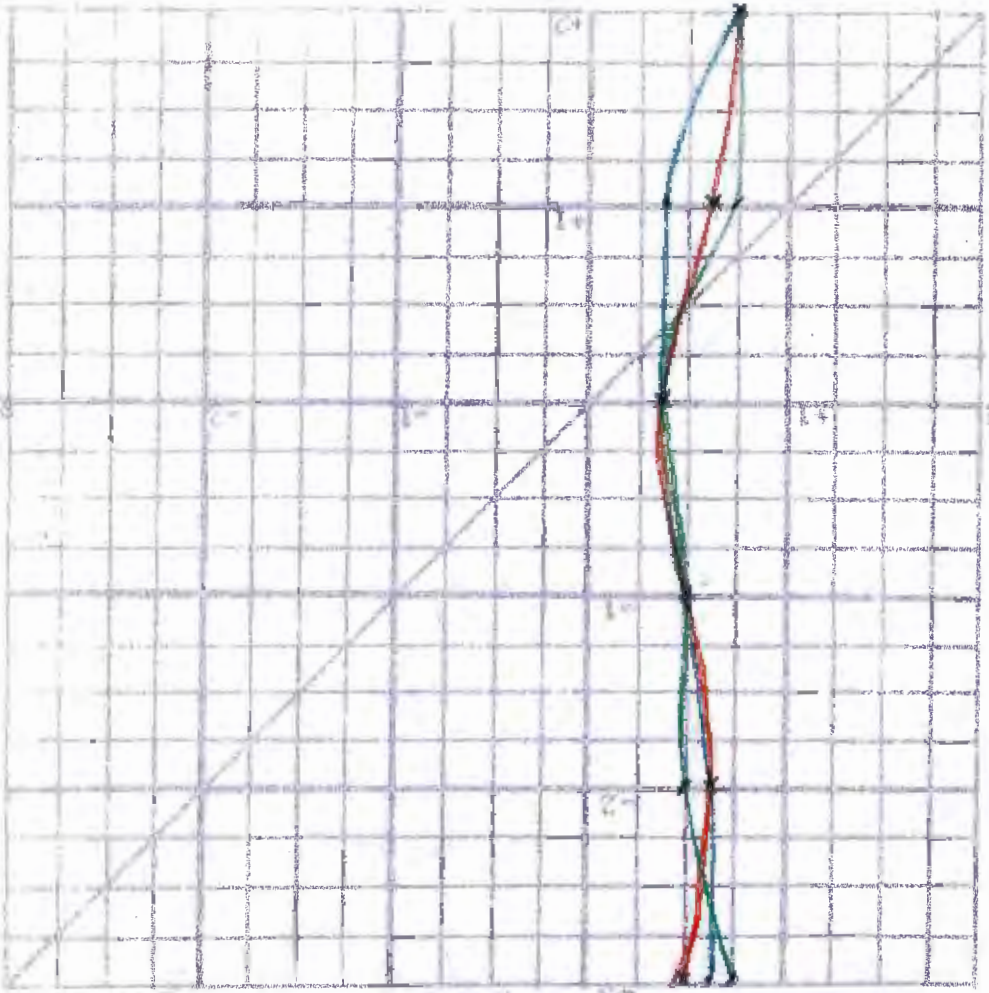
The optometer device adapted to the phoropter seems to be practical and valid; however, the standard deviation of the crossing point on the graphs (response=stimulus) shows that the base point determination requires further investigation. For example, there were cases where the  $14B^+$  and  $14B^-$  were equal to each other, the  $14B$  taken with chevron was  $1/4^D$  lower than  $14B^\pm$ , and the base point was  $1/8^D$  lower. With this consistency we would expect the crossing point on the graph to be at zero  $\pm 1/8^D$ ; but as we see it varied two diopters in one extreme instance from zero which seems to indicate that there are factors involved that were not taken into account in this thesis.

We found no indication as to how we can predict the percent of response other than measuring it.

Blue = 20/20  
 Red = 20/40  
 Blue = 20/80



OS +1.25  
 OS +1.25  
 Base +1.25  
 OS +1.25  
 OS +1.25  
 14B = deviation +1.37  
 OS +1.37  
 OS +1.37  
 14B -1.25  
 OS -1.25  
 OS -1.25  
 14B = 10.80  
 OS +1.12  
 OS +1.12  
 14B +1.87  
 OS +1.87  
 OS +1.87  
 14B = 20.81  
 15A 13.00, 9.00  
 OS +1.75  
 OS +1.75

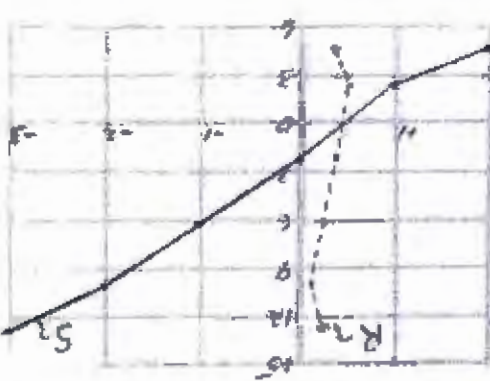
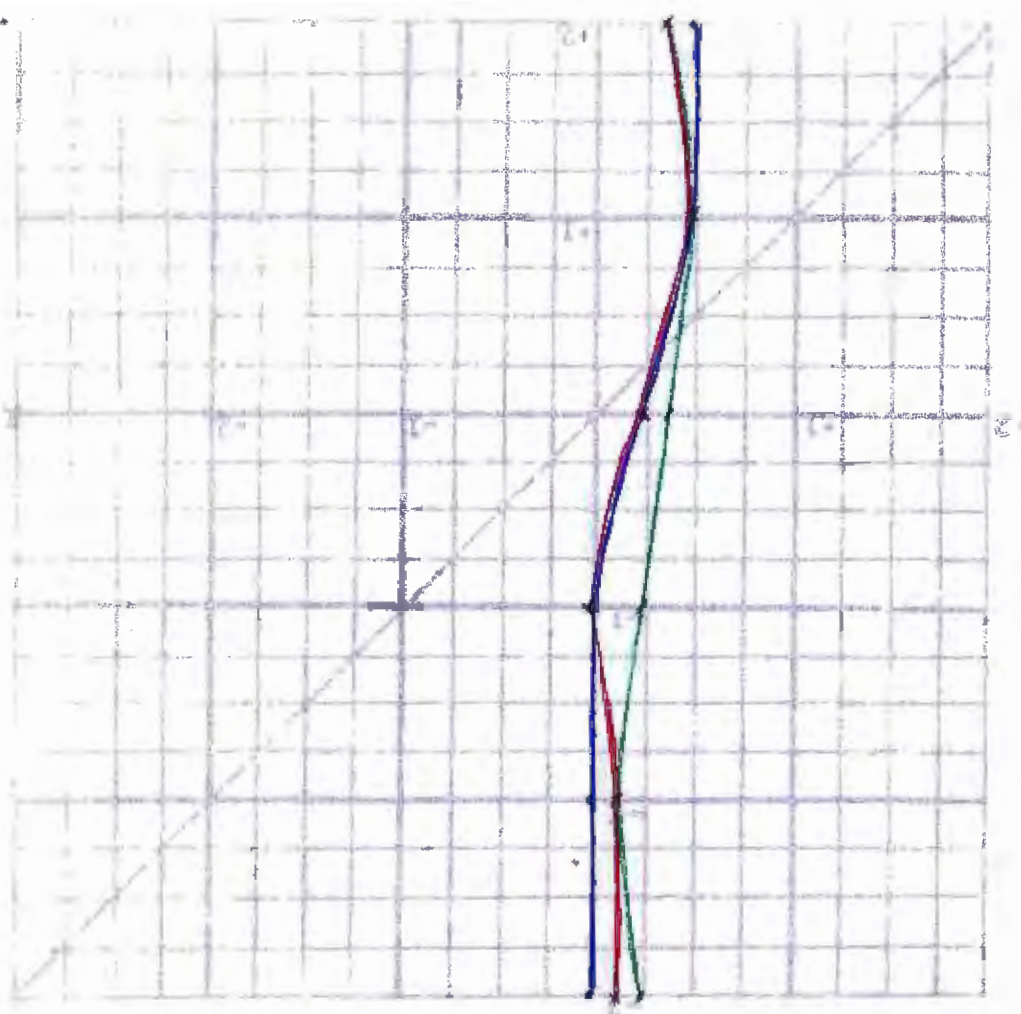
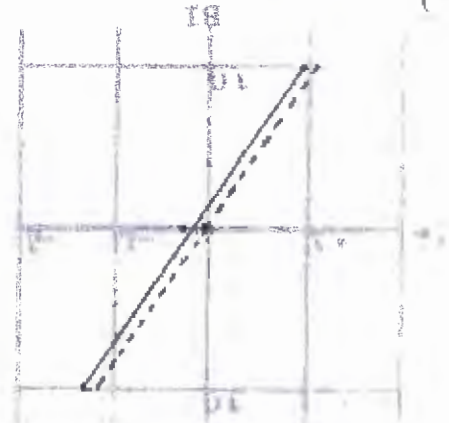


S 20/80/40/20/20  
 S 20/80/40/20/20  
 -1 +1.50 +1.50 (+50) 1.50 1.50  
 -2 +1.12 +1.12 (+50) 1.50 1.50  
 -3 +1.62 (+50) 1.75 1.50  
 BASE +1.37 +1.37 2.12 1.50  
 +1 +1.37 +1.62 +1.75 1.50  
 +2 +1.95 +1.95 2.12 1.50

BASE	+1.12	+1.50	+1.75	+1.95
BASE	+1.12	+1.50	+1.75	+1.95
1	+1.00	+1.00	+1.00	+1.00
2	+1.00	+1.00	+1.00	+1.00
3	+1.00	+1.00	+1.00	+1.00
4	+1.00	+1.00	+1.00	+1.00
5	+1.00	+1.00	+1.00	+1.00
6	+1.00	+1.00	+1.00	+1.00
7	+1.00	+1.00	+1.00	+1.00
8	+1.00	+1.00	+1.00	+1.00
9	+1.00	+1.00	+1.00	+1.00
10	+1.00	+1.00	+1.00	+1.00
11	+1.00	+1.00	+1.00	+1.00
12	+1.00	+1.00	+1.00	+1.00
13	+1.00	+1.00	+1.00	+1.00
14	+1.00	+1.00	+1.00	+1.00
15	+1.00	+1.00	+1.00	+1.00
16	+1.00	+1.00	+1.00	+1.00
17	+1.00	+1.00	+1.00	+1.00
18	+1.00	+1.00	+1.00	+1.00
19	+1.00	+1.00	+1.00	+1.00
20	+1.00	+1.00	+1.00	+1.00
21	+1.00	+1.00	+1.00	+1.00
22	+1.00	+1.00	+1.00	+1.00
23	+1.00	+1.00	+1.00	+1.00
24	+1.00	+1.00	+1.00	+1.00
25	+1.00	+1.00	+1.00	+1.00
26	+1.00	+1.00	+1.00	+1.00
27	+1.00	+1.00	+1.00	+1.00
28	+1.00	+1.00	+1.00	+1.00
29	+1.00	+1.00	+1.00	+1.00
30	+1.00	+1.00	+1.00	+1.00
31	+1.00	+1.00	+1.00	+1.00
32	+1.00	+1.00	+1.00	+1.00
33	+1.00	+1.00	+1.00	+1.00
34	+1.00	+1.00	+1.00	+1.00
35	+1.00	+1.00	+1.00	+1.00
36	+1.00	+1.00	+1.00	+1.00
37	+1.00	+1.00	+1.00	+1.00
38	+1.00	+1.00	+1.00	+1.00
39	+1.00	+1.00	+1.00	+1.00
40	+1.00	+1.00	+1.00	+1.00
41	+1.00	+1.00	+1.00	+1.00
42	+1.00	+1.00	+1.00	+1.00
43	+1.00	+1.00	+1.00	+1.00
44	+1.00	+1.00	+1.00	+1.00
45	+1.00	+1.00	+1.00	+1.00
46	+1.00	+1.00	+1.00	+1.00
47	+1.00	+1.00	+1.00	+1.00
48	+1.00	+1.00	+1.00	+1.00
49	+1.00	+1.00	+1.00	+1.00
50	+1.00	+1.00	+1.00	+1.00

Subj: HM Age 33  
 Pat No 68  
 Date 2/28/62  
 Classifier JKB

2000 = 20/20  
 100 = 20/20  
 100 = 20/20



5	20/20	10/20	10/20	20/20
-1	pt	+12	+25	12/50
-2	pt	+12	+12	10/50
-3	pt	+25	+25	6/50
-4	pt	+25	+25	25/20
+1	BASE	+25	+25	25/20
+2	+50	+50	+37	07/20
+3	+50	+50	+25	25/20
+4	+50	+37	07/20	

5	BASE	+50	+25	1.50
4	BASE	+50	+25	2.00
3	BASE	+50	+25	4.00
2	BASE	+50	+25	4.00
1	BASE	+50	+25	4.00
0	BASE	+50	+25	6.00
-1	BASE	+50	+25	6.00
-2	BASE	+50	+25	4.00
-3	BASE	+50	+25	4.00
-4	BASE	+50	+25	4.00
-5	BASE	+50	+25	2.00
-6	BASE	+50	+25	2.00
-7	BASE	+50	+25	2.00
-8	BASE	+50	+25	4.00
-9	BASE	+50	+25	4.00
-10	BASE	+50	+25	6.00
-11	BASE	+50	+25	6.00
-12	BASE	+50	+25	4.00
-13	BASE	+50	+25	4.00
-14	BASE	+50	+25	4.00
-15	BASE	+50	+25	2.00
-16	BASE	+50	+25	2.00
-17	BASE	+50	+25	2.00
-18	BASE	+50	+25	4.00
-19	BASE	+50	+25	4.00
-20	BASE	+50	+25	6.00

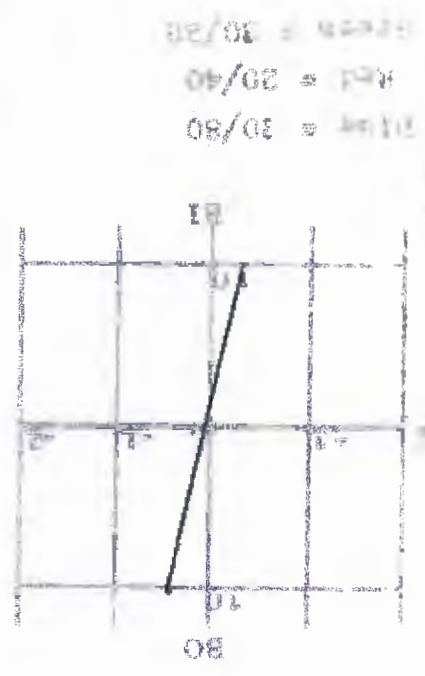
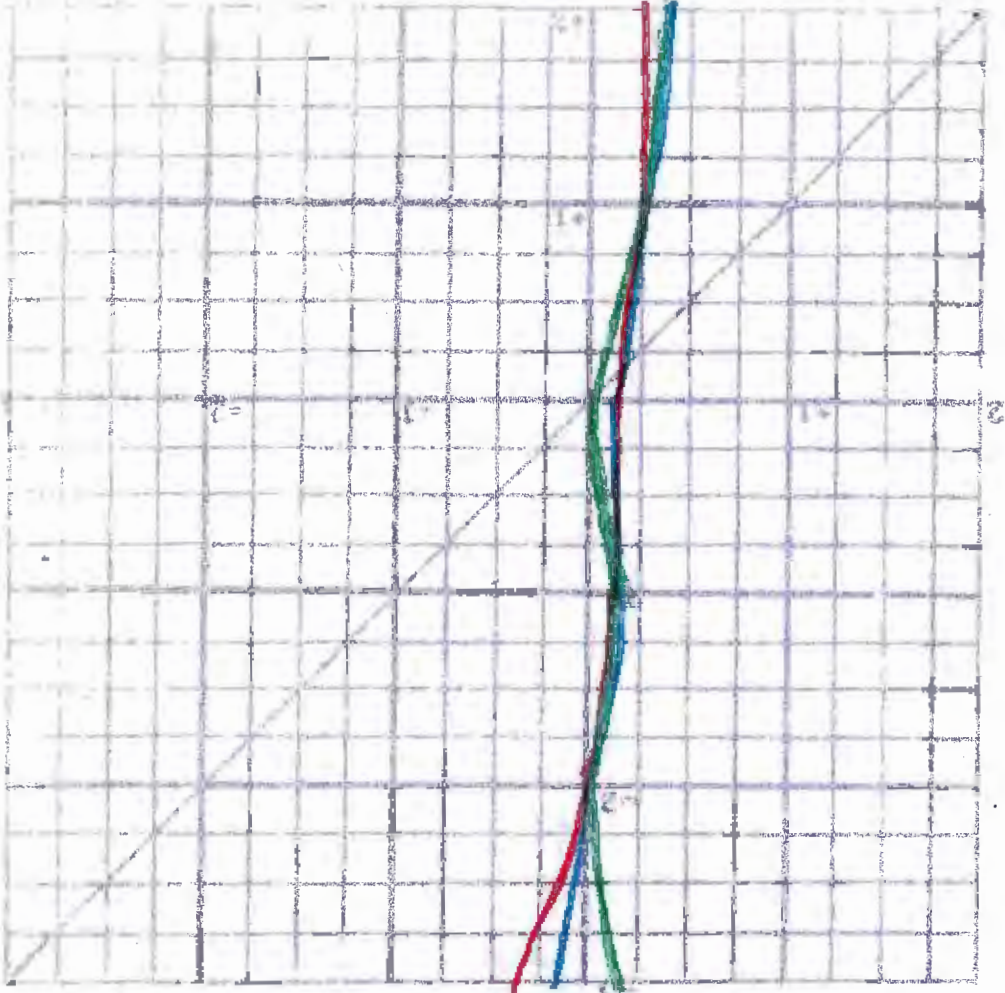
15 -25  
 pt  
 BASE  
 10 -25  
 pt  
 10 00  
 15 -0.50  
 10 -0.25  
 140 -  
 05 -1.50  
 10 -1.25  
 140 10 00  
 05 -25  
 pt  
 100 +  
 05 +.25  
 140 +1.00  
 100 11 20  
 15 +1.75  
 140 +1.00  
 140  
 15 -25 x 119  
 NEXT Cvt

2/20/2  
 2/20/2  
 2/20/2  
 2/20/2

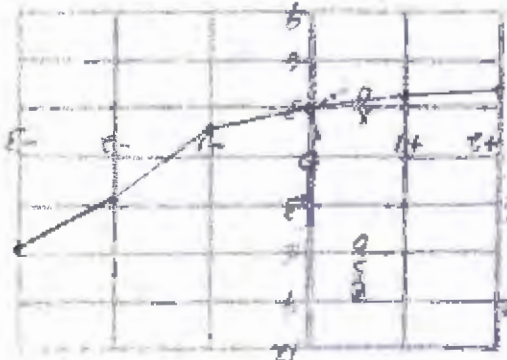








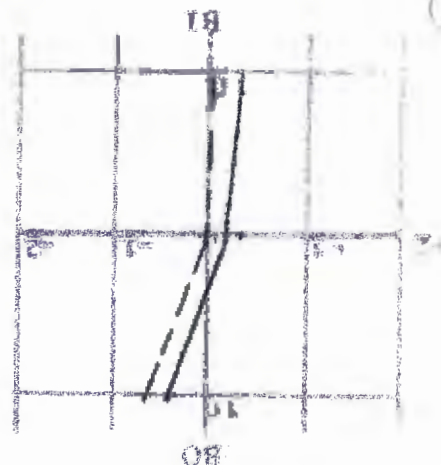
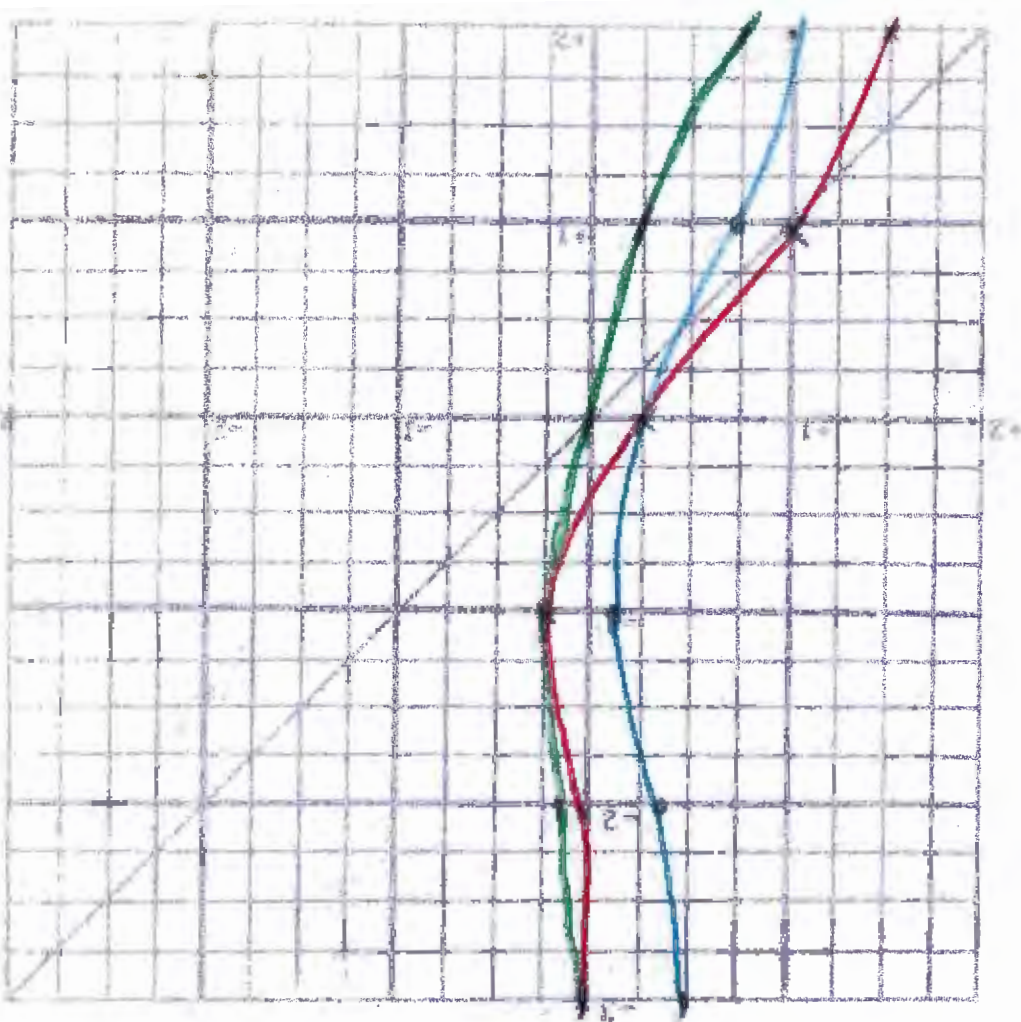
30/30  
 20/40  
 30/80



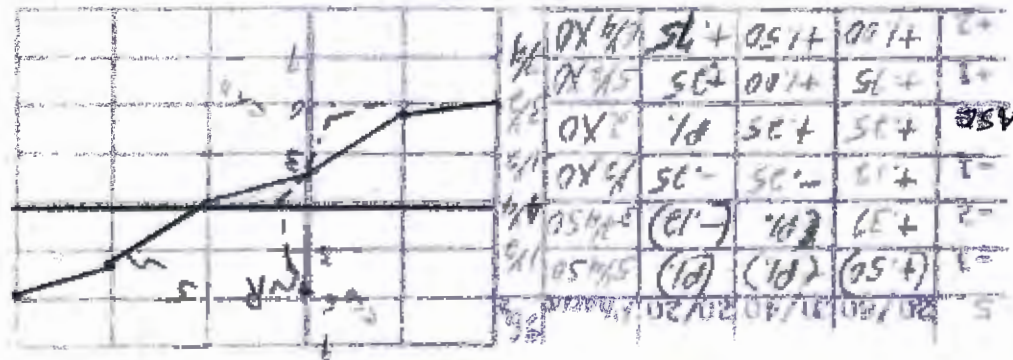
2	+3.7	+2.5	+3.7	4.4 X 10
1	+3.7	+2.5	+3.7	4.4 X 10
BASE	+1.3	+1.3	+1.3	3.3 X 10
1	+1.3	+1.3	+1.3	1.5 X 10
2	P1	P1	P1	2.5 X 10
3	(-1.3)	(-3.7)	(+1.3)	5.4 X 10
5	20/80	20/40	20/20	

BASE	+1.87	+1.87	+1.87	11.4 X 10
1	+1.87	+1.87	+1.87	3.3 X 10
2	+1.87	+1.87	+1.87	3.3 X 10
3	(+1.87)	(+1.87)	(+1.87)	5.3 X 10
4	(+1.87)	(+1.87)	(+1.87)	5.3 X 10
5	(+1.87)	(+1.87)	(+1.87)	5.3 X 10
6	+1.87	+1.87	+1.87	5.3 X 10
7	+1.87	+1.87	+1.87	5.3 X 10
8	+1.87	+1.87	+1.87	5.3 X 10
9	+1.87	+1.87	+1.87	5.3 X 10
10	+1.87	+1.87	+1.87	5.3 X 10
11	+1.87	+1.87	+1.87	5.3 X 10
12	+1.87	+1.87	+1.87	5.3 X 10
13	+1.87	+1.87	+1.87	5.3 X 10
14	+1.87	+1.87	+1.87	5.3 X 10
15	+1.87	+1.87	+1.87	5.3 X 10
16	+1.87	+1.87	+1.87	5.3 X 10
17	+1.87	+1.87	+1.87	5.3 X 10
18	+1.87	+1.87	+1.87	5.3 X 10
19	+1.87	+1.87	+1.87	5.3 X 10
20	+1.87	+1.87	+1.87	5.3 X 10

OS +1.75  
 BASE +1.75  
 OS +1.62  
 OD +1.62  
 TAB CLEVERON +1.57  
 OS +1.57  
 OD +1.57  
 TAB - +1.37  
 OS +1.37  
 OD +1.37  
 TAB 20 BO +1.62  
 OS +1.62  
 OD +1.62  
 TAB + +0.12  
 OS +0.12  
 OD +0.12  
 TAB 20 BI 3X0 +1.87  
 OS +1.87  
 OD +1.87  
 TAB 14A -0.25 X 10  
 OS -0.25 X 10  
 OD -0.25 X 10  
 NEAR EYE +1.2  
 OS +1.2  
 OD +1.2  
 FINISH R.D.B.  
 DATE 3-7-62  
 FAT NO 66  
 SNO: W.H. AGE 26



1300 = 20/80  
1200 = 20/40  
1100 = 20/20



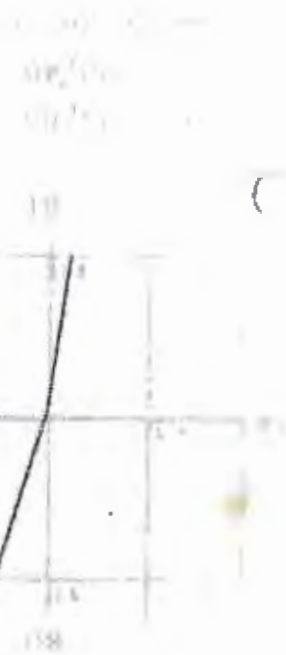
OS  
OD  
BASE  
OS  
OD  
14B direction  
OS  
OD  
+1.2  
+1.37  
14B -  
OS  
OD  
-1.2  
-1.37  
14B TO BO  
OS  
OD  
-1.2  
+1.37  
14B +  
OS  
OD  
+1.2  
+1.37  
14B TO BI  
15A  
OS  
OD  
+1.37  
+1.2  
14A  
OS  
OD  
-1.2  
-1.37  
NEAR CV1  
OS  
OD  
-1.2  
-1.37

Subj: R.B. Age 33  
Fax PA 64  
Date 3-20-62  
Cincinnati Dorsey

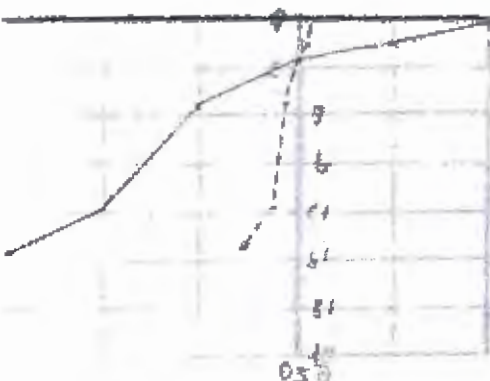
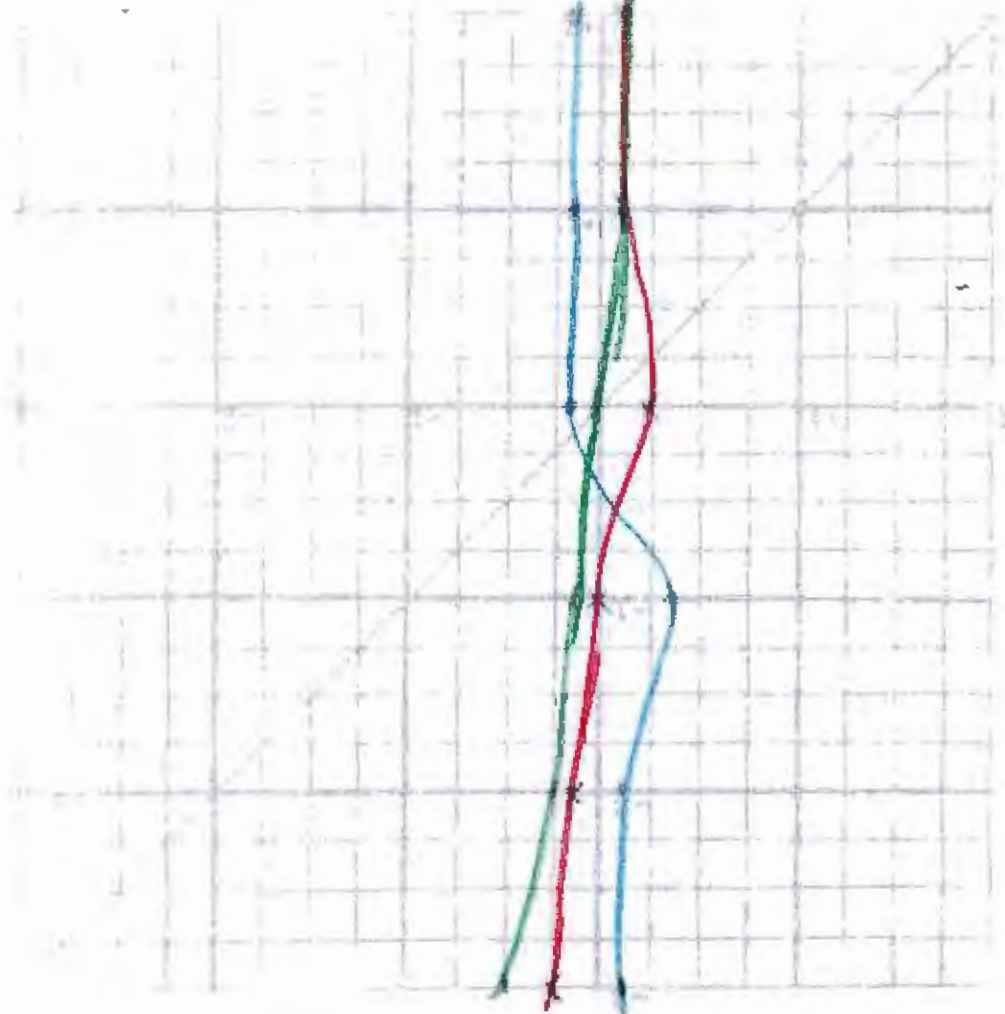
5	BASE	20/80	20/40	20/20	PROFS
1		+1.2	+1.2	-1.2	2.2, X0
2		+1.2	+1.2	+1.2	4.6, X0
3		+1.2	+1.2	+1.2	8.6, X0
4		+1.2	+1.2	+1.2	8.9, X0
5		+1.2	+1.2	+1.2	6.6, X0
6		+1.2	+1.2	-1.2	3.2, X0
7		+1.2	+1.2	-1.2	Φ, Φ
8		+1.2	+1.2	-1.2	4.5, 50
9		+1.2	+1.2	-1.2	6.4, 50
10		+1.2	+1.2	-1.2	6.1, 50
11		+1.2	+1.2	-1.2	4.4, 50
12		+1.2	+1.2	-1.2	Φ, 0, X0
13		+1.2	+1.2	-1.2	3.4, X0
14	BASE	+1.2	+1.2	+1.2	
15		+1.2	+1.2	+1.2	
16		+1.2	+1.2	+1.2	
17		+1.2	+1.2	+1.2	
18		+1.2	+1.2	+1.2	
19		+1.2	+1.2	+1.2	
20		+1.2	+1.2	+1.2	
21		+1.2	+1.2	+1.2	
22		+1.2	+1.2	+1.2	
23		+1.2	+1.2	+1.2	
24		+1.2	+1.2	+1.2	
25		+1.2	+1.2	+1.2	
26		+1.2	+1.2	+1.2	
27		+1.2	+1.2	+1.2	
28		+1.2	+1.2	+1.2	
29		+1.2	+1.2	+1.2	
30		+1.2	+1.2	+1.2	







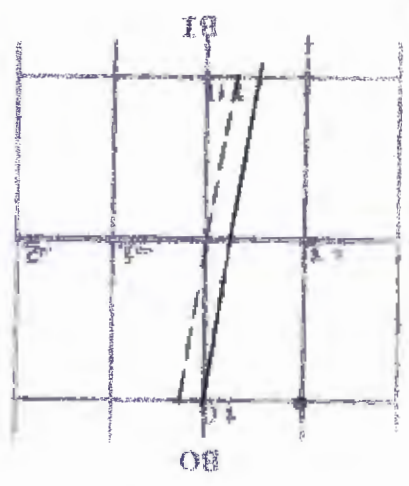
0.50  
 1.00  
 1.50  
 2.00  
 2.50  
 3.00  
 3.50  
 4.00  
 4.50  
 5.00  
 5.50  
 6.00  
 6.50  
 7.00  
 7.50  
 8.00  
 8.50  
 9.00  
 9.50  
 10.00



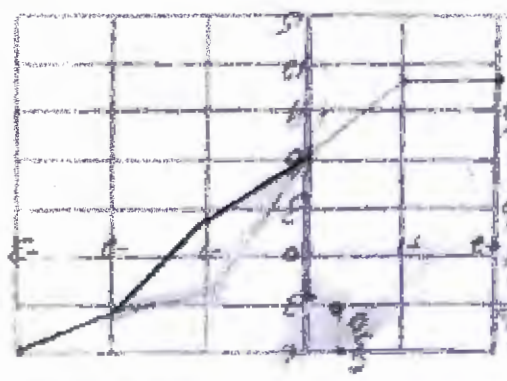
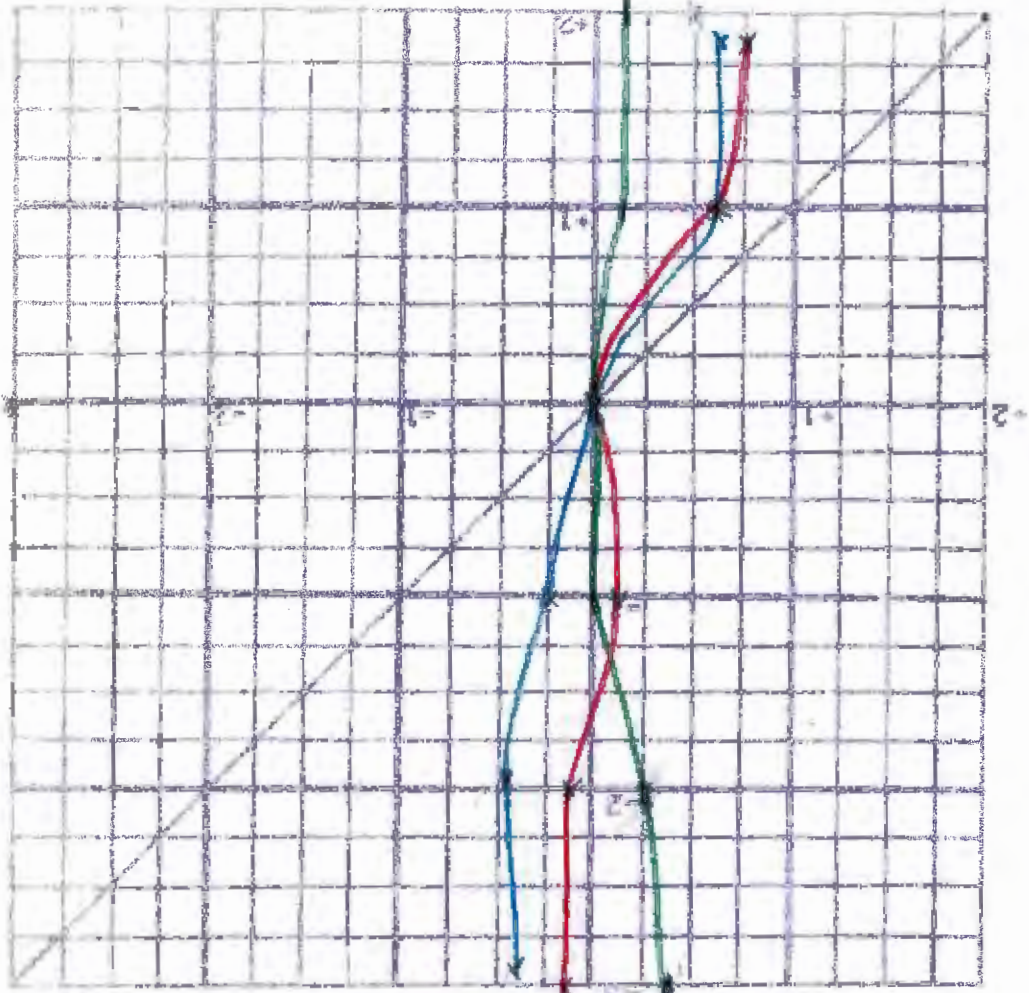
0.50  
 1.00  
 1.50  
 2.00  
 2.50  
 3.00  
 3.50  
 4.00  
 4.50  
 5.00  
 5.50  
 6.00  
 6.50  
 7.00  
 7.50  
 8.00  
 8.50  
 9.00  
 9.50  
 10.00

BASE	4137	4162	4137	4162	4162	4137	4162
BASE	4137	4162	4162	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162
BASE	4137	4162	4137	4162	4162	4162	4162

HUDE = 20/80  
 REE = 20/40  
 FEEN = 20/20



OS +1.00  
 OD +1.00  
 Base  
 OS +.75  
 OD +.75  
 14B Collection  
 OS +1.25  
 OD +1.25  
 14B  
 OS +1.00  
 OD +1.00  
 14B 10 BO  
 OS +1.95  
 OD +1.95  
 14B +  
 OS +1.50  
 OD +1.50  
 14B 10 BI  
 14A  
 OS +1.50  
 OD +1.50  
 14A  
 OS -1.50 x 5  
 OD -1.50 x 5  
 Near eye



S	20/40	20/20	20/20
1	1.50	1.50	1.50
2	1.50	1.50	1.50
3	1.50	1.50	1.50
4	1.50	1.50	1.50
5	1.50	1.50	1.50
6	1.50	1.50	1.50
7	1.50	1.50	1.50
8	1.50	1.50	1.50
9	1.50	1.50	1.50
10	1.50	1.50	1.50

BASE	1.50	1.50	1.50
1	1.50	1.50	1.50
2	1.50	1.50	1.50
3	1.50	1.50	1.50
4	1.50	1.50	1.50
5	1.50	1.50	1.50
6	1.50	1.50	1.50
7	1.50	1.50	1.50
8	1.50	1.50	1.50
9	1.50	1.50	1.50
10	1.50	1.50	1.50

Subj: M.B. Age 22  
 Far pd 66  
 Date 2-27-62  
 Clinician M.D.

Subj. Bc Age 22

Part Pd 72  
Date 2/27/12  
Clinician TKB

OD  
US  
Near Cyl  
OD -1.25 X 10  
OS -

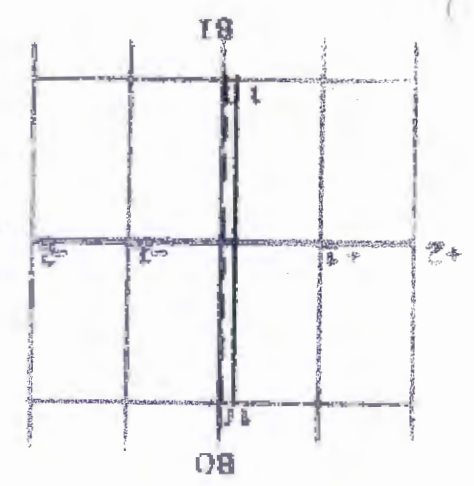
15A 12 X 0  
14B = 10 BI  
OD -112  
OS -37

14B T  
OD -112  
OS -37

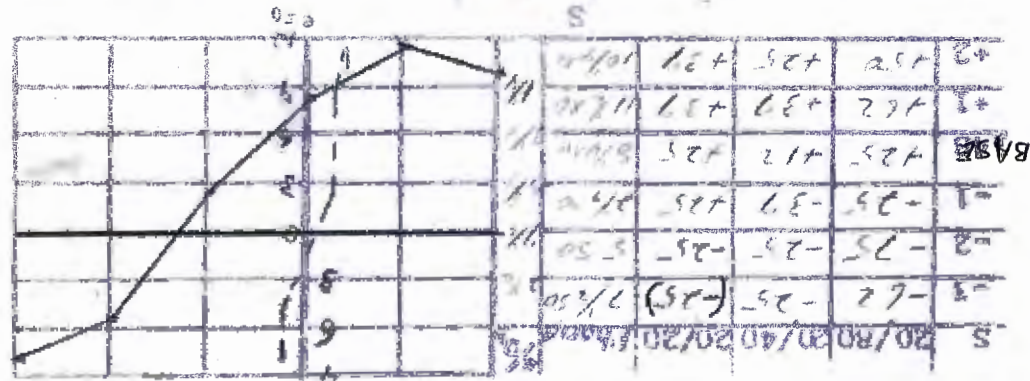
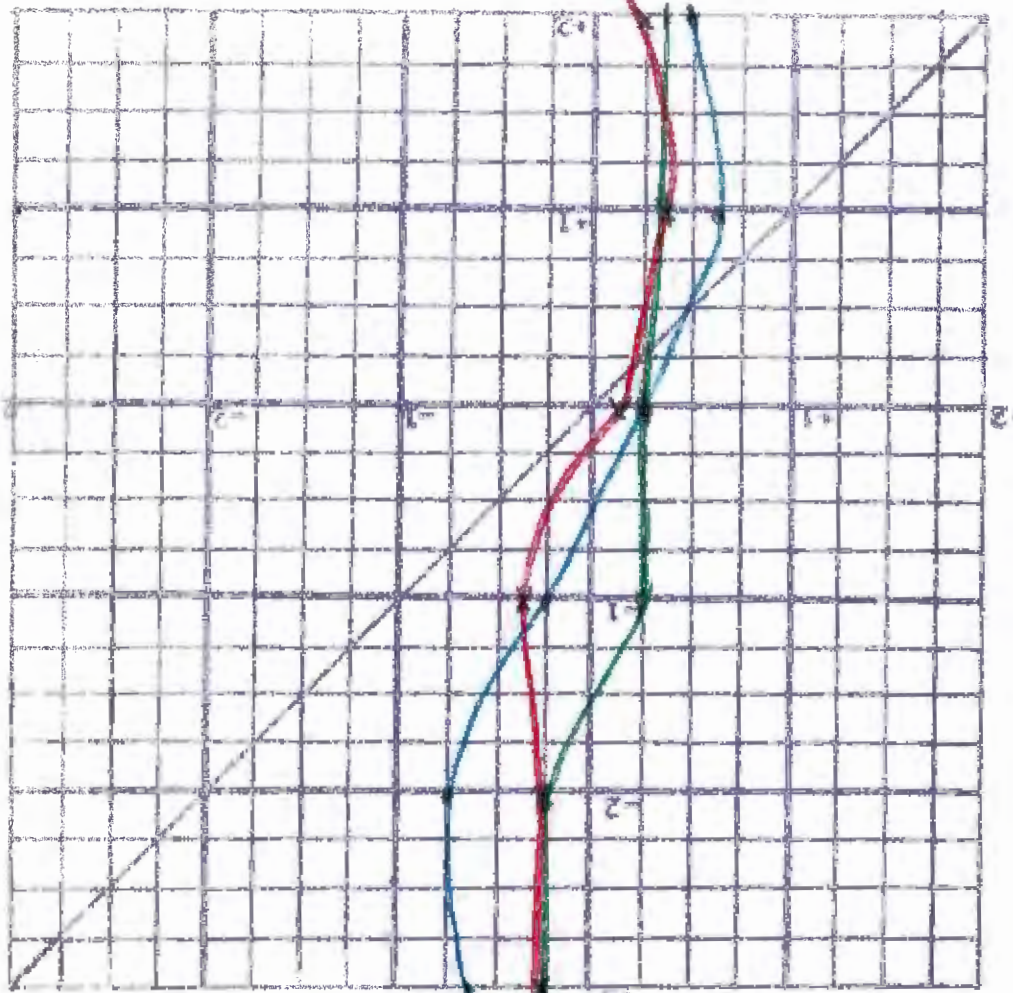
14B = 10 BO  
OD -112  
OS -37

14B = Elevation  
OD -112  
OS -37

Base  
OD -125  
OS -50

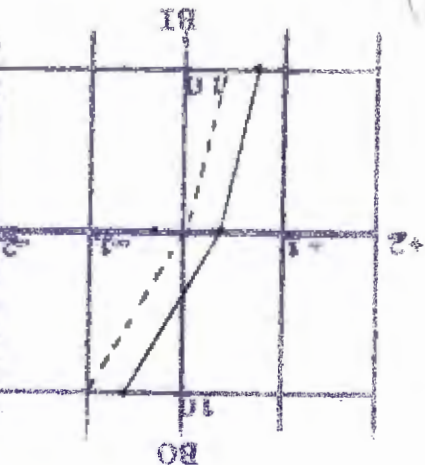


Blue = 20/80  
Red = 20/40  
Green = 20/20

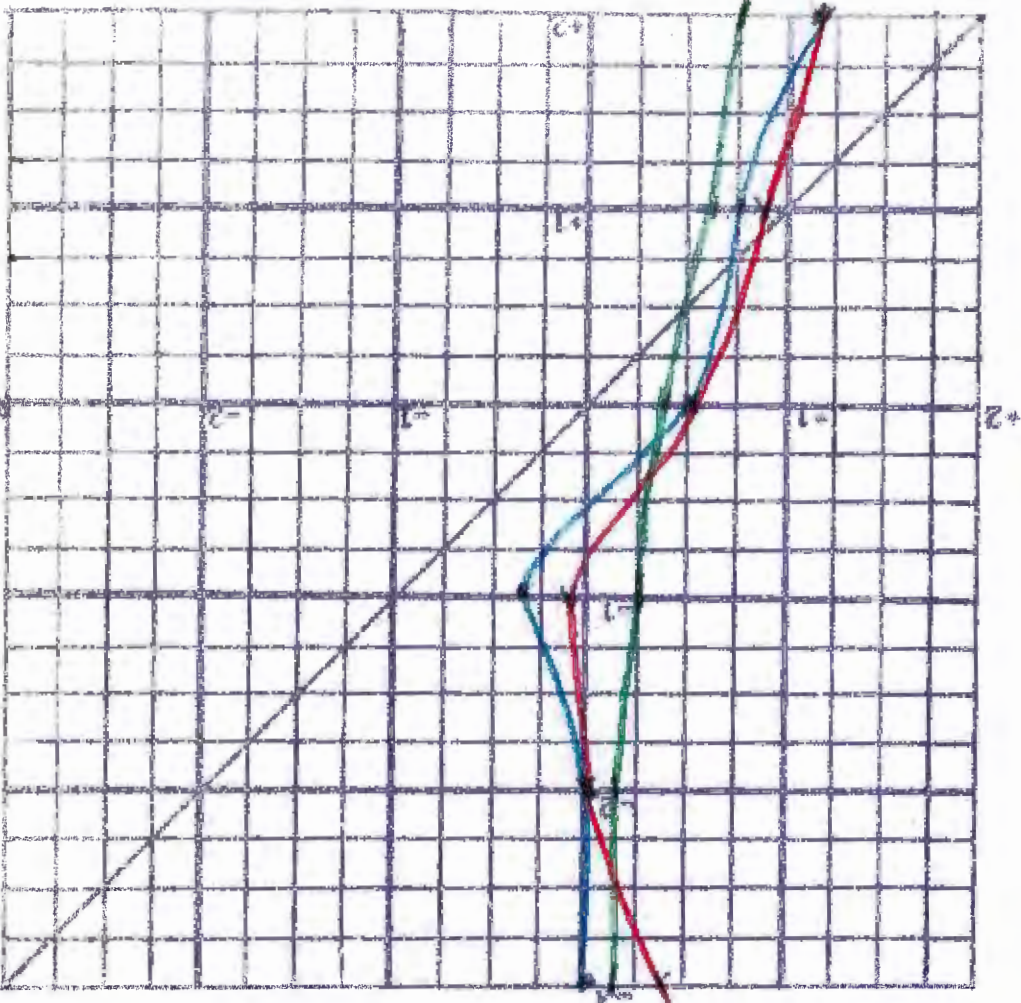


S	R 20/80	R 20/40	R 20/20	Phoria
+1	-112	-87	-81	10/10 X
+2	-87	-87	-81	12/14 X
+3	-62	-81	-81	12/12 X
+4	-37	-81	-81	12/14 X
+5	-12	-81	-81	12/14 X
-1	-137	-112	-112	9/9 X
-2	-212	-112	-112	6/4 X
-3	-277	-112	-112	6/2.5 X
-4	-312	-112	-112	13/9 X
-5	-337	-112	-112	9/6.5 X
-6	-362	-112	-112	7/5 X
-7	-387	-112	-112	5/3.5 X
-8	-412	-112	-112	2/2.5 X
-9	-437	-112	-112	2/2.5 X
-10	-462	-112	-112	2/2.5 X
-11	-487	-112	-112	2/2.5 X
-12	-512	-112	-112	2/2.5 X
-13	-537	-112	-112	2/2.5 X
-14	-562	-112	-112	2/2.5 X
-15	-587	-112	-112	2/2.5 X
-16	-612	-112	-112	2/2.5 X
-17	-637	-112	-112	2/2.5 X
-18	-662	-112	-112	2/2.5 X
-19	-687	-112	-112	2/2.5 X
-20	-712	-112	-112	2/2.5 X

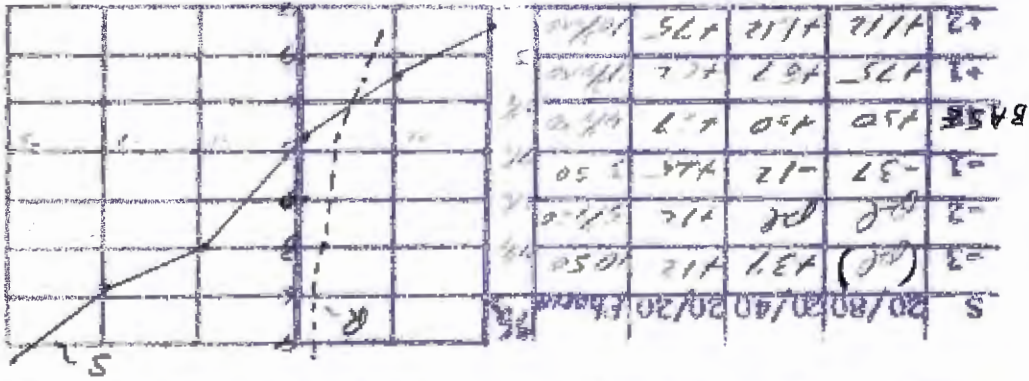




Green = 20/20  
 Red = 20/40  
 Blue = 20/80



- OS +1.75
- OD +1.75
- BASE
- OS +1.7
- OD +1.7
- I4B = CHEVON
- OS +1.72
- OD +1.72
- I4B -
- OS +1.72
- OD +1.72
- I4B = 10 BO
- OS +1.62
- OD +1.62
- I4B +
- OS +2.00
- OD +2.00
- I4B = 10 BI
- I5A 10X12X2
- OS +2.50
- OD +2.50
- I4A
- OS -1.00 X 150
- OD -1.00 X 150
- Next CV1
- OS +50 - 50 X 3
- OD +62 - 50 X 10



S	20/80	20/40	20/20
-3	10.50	11.2	10.50
-2	9.50	11.2	9.50
-1	8.50	11.2	8.50
BASE	7.50	11.2	7.50
+1	6.50	11.2	6.50
+2	5.50	11.2	5.50

S	R 20/80	R 20/40	R 20/20	Points
BASE	+2.12	11.87	11.12	4.6 X 8
+1	11.87	12.12	11.87	8.8 X 8
+2	12.37	12.37	12.12	12.11 X 8
+2	12.37	(12.37)	12.12	12.11 X 8
+1	11.87	12.12	11.87	8.8 X 8
BASE	11.30	11.12	11.12	4.6 X 8
-1	11.87	11.12	11.12	7.250
-2	11.12	11.12	11.12	4.4 X 8
-3	(11.12)	11.12	11.12	16.1050
-3	(11.12)	11.12	11.12	11.1250
-2	(11.12)	11.12	11.12	9.55
-1	11.12	11.12	11.12	4.6 X 8
BASE	11.12	11.12	11.12	4.6 X 8

Subj: HB Age 25  
 Exp Pd 64  
 Date 2/25/62  
 Clinician TRB

Subj. DW No 23

Fee pd 64  
Date 2/25/62  
Clinician M.D.

OS +50  
OD +50

Next Eye

OD -25 X150  
OS -25 X150

14A

OD +1.75  
OS +1.75

15A 11,10 X0

14B = 10 BI

OD +1.00  
OS +1.00

14B+

OD +1.87  
OS +1.87

14B = 10 80

OD +3.7  
OS +3.7

14B-

OD +1.87  
OS +1.87

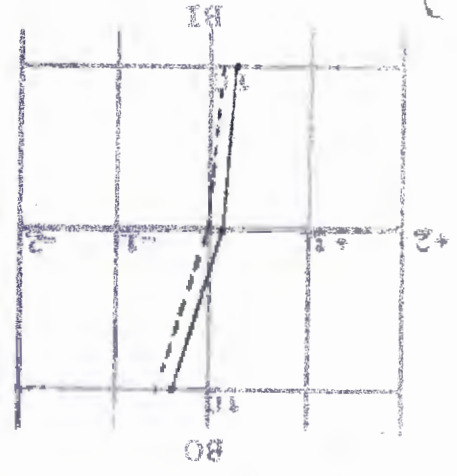
14B = chevron

OD +3.7  
OS +3.7

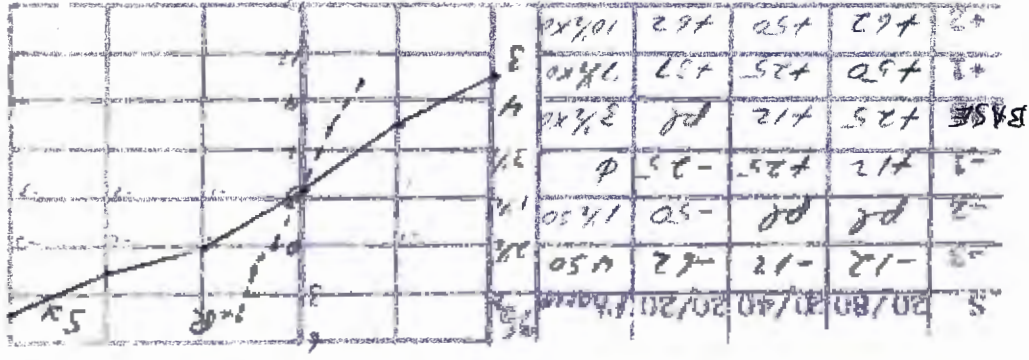
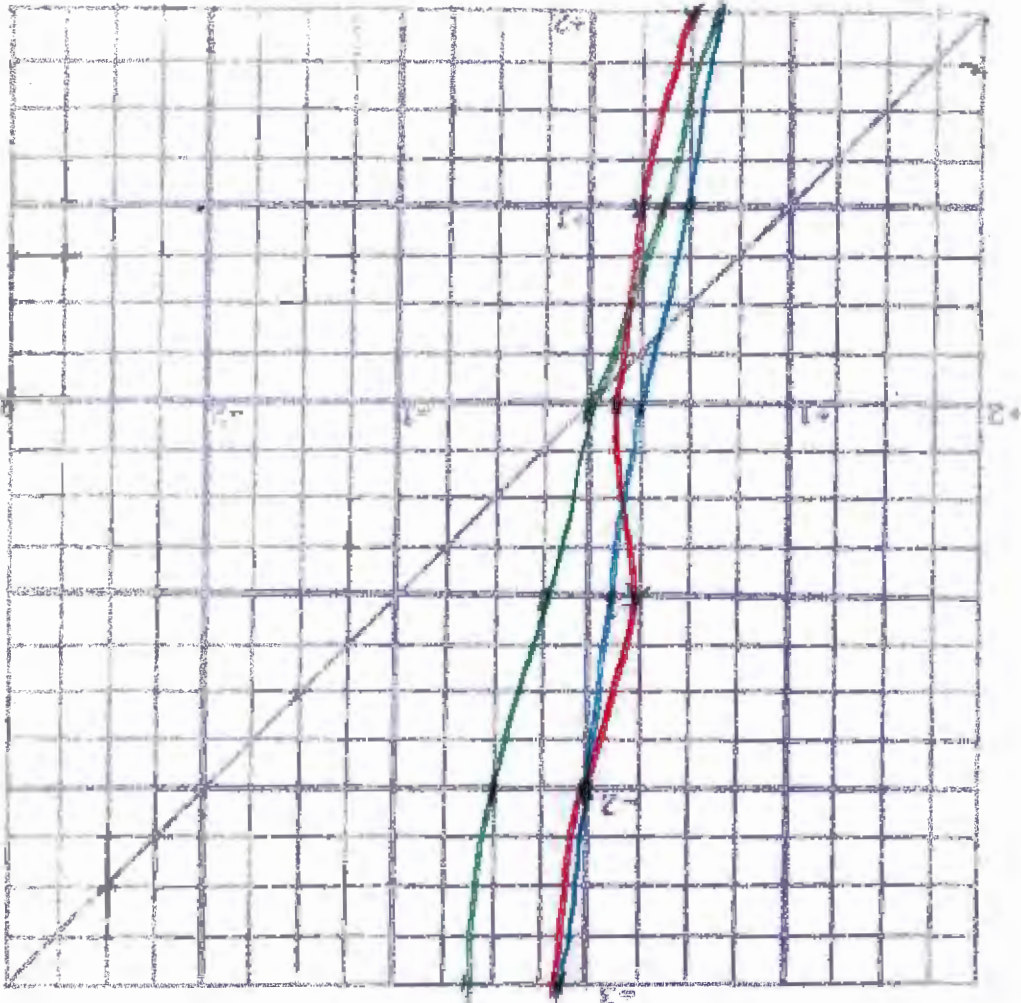
Base

OD +1.75  
OS +1.75

OS +1.75

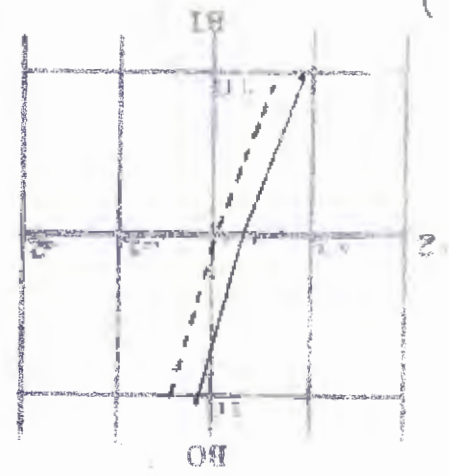


Blue = 20/80  
Red = 20/40  
Green = 20/20

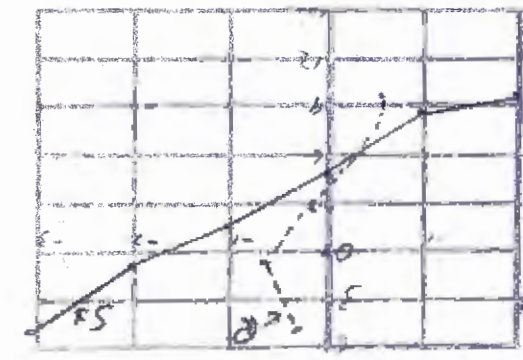
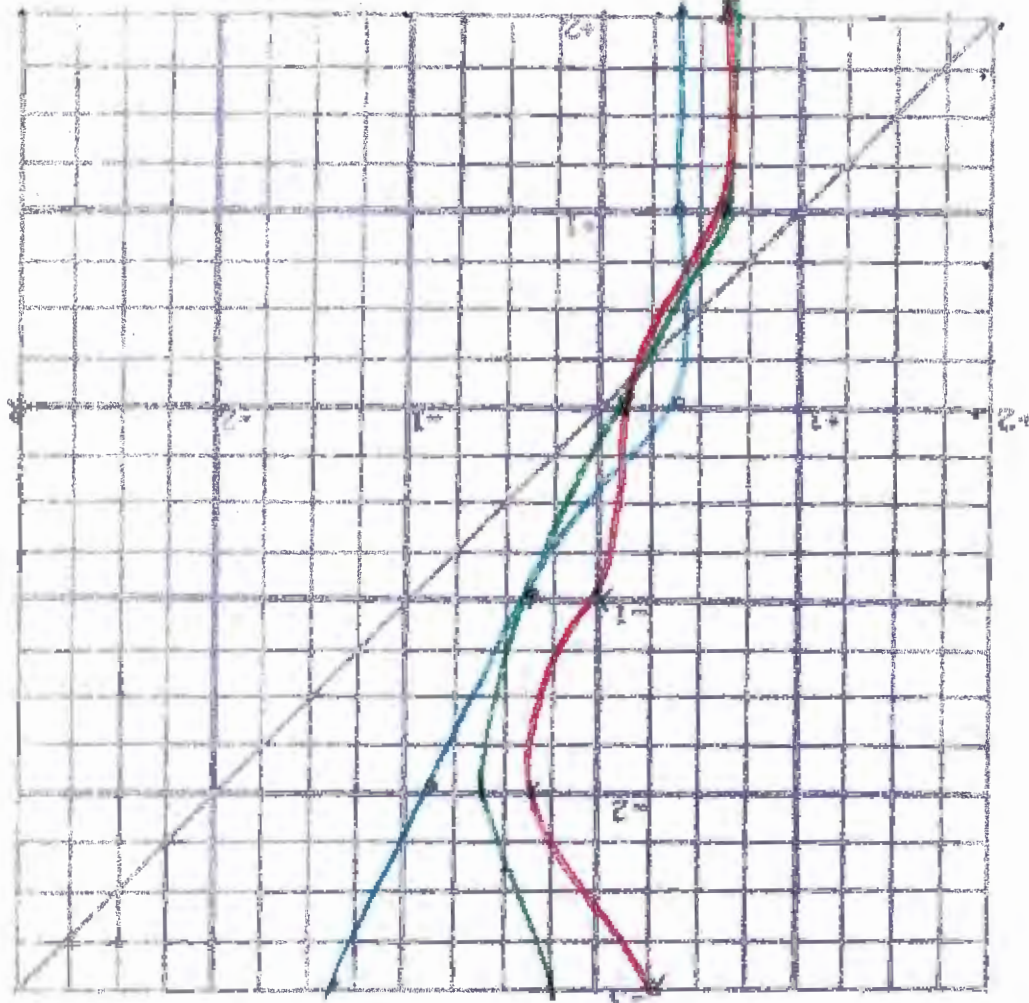


S	20/80	20/40	20/20	Base
+1	+1.2	+1.2	+1.2	BASE
+2	+1.2	+1.2	+1.2	BASE
+3	+1.2	+1.2	+1.2	BASE
-1	+1.2	+1.2	+1.2	BASE
-2	+1.2	+1.2	+1.2	BASE
-3	+1.2	+1.2	+1.2	BASE
-4	+1.2	+1.2	+1.2	BASE
-5	+1.2	+1.2	+1.2	BASE
-6	+1.2	+1.2	+1.2	BASE
-7	+1.2	+1.2	+1.2	BASE
-8	+1.2	+1.2	+1.2	BASE
-9	+1.2	+1.2	+1.2	BASE
-10	+1.2	+1.2	+1.2	BASE
-11	+1.2	+1.2	+1.2	BASE
-12	+1.2	+1.2	+1.2	BASE
-13	+1.2	+1.2	+1.2	BASE
-14	+1.2	+1.2	+1.2	BASE
-15	+1.2	+1.2	+1.2	BASE
-16	+1.2	+1.2	+1.2	BASE
-17	+1.2	+1.2	+1.2	BASE
-18	+1.2	+1.2	+1.2	BASE
-19	+1.2	+1.2	+1.2	BASE
-20	+1.2	+1.2	+1.2	BASE
-21	+1.2	+1.2	+1.2	BASE
-22	+1.2	+1.2	+1.2	BASE
-23	+1.2	+1.2	+1.2	BASE
-24	+1.2	+1.2	+1.2	BASE
-25	+1.2	+1.2	+1.2	BASE
-26	+1.2	+1.2	+1.2	BASE
-27	+1.2	+1.2	+1.2	BASE
-28	+1.2	+1.2	+1.2	BASE
-29	+1.2	+1.2	+1.2	BASE
-30	+1.2	+1.2	+1.2	BASE
-31	+1.2	+1.2	+1.2	BASE
-32	+1.2	+1.2	+1.2	BASE
-33	+1.2	+1.2	+1.2	BASE
-34	+1.2	+1.2	+1.2	BASE
-35	+1.2	+1.2	+1.2	BASE
-36	+1.2	+1.2	+1.2	BASE
-37	+1.2	+1.2	+1.2	BASE
-38	+1.2	+1.2	+1.2	BASE
-39	+1.2	+1.2	+1.2	BASE
-40	+1.2	+1.2	+1.2	BASE
-41	+1.2	+1.2	+1.2	BASE
-42	+1.2	+1.2	+1.2	BASE
-43	+1.2	+1.2	+1.2	BASE
-44	+1.2	+1.2	+1.2	BASE
-45	+1.2	+1.2	+1.2	BASE
-46	+1.2	+1.2	+1.2	BASE
-47	+1.2	+1.2	+1.2	BASE
-48	+1.2	+1.2	+1.2	BASE
-49	+1.2	+1.2	+1.2	BASE
-50	+1.2	+1.2	+1.2	BASE
-51	+1.2	+1.2	+1.2	BASE
-52	+1.2	+1.2	+1.2	BASE
-53	+1.2	+1.2	+1.2	BASE
-54	+1.2	+1.2	+1.2	BASE
-55	+1.2	+1.2	+1.2	BASE
-56	+1.2	+1.2	+1.2	BASE
-57	+1.2	+1.2	+1.2	BASE
-58	+1.2	+1.2	+1.2	BASE
-59	+1.2	+1.2	+1.2	BASE
-60	+1.2	+1.2	+1.2	BASE
-61	+1.2	+1.2	+1.2	BASE
-62	+1.2	+1.2	+1.2	BASE
-63	+1.2	+1.2	+1.2	BASE
-64	+1.2	+1.2	+1.2	BASE
-65	+1.2	+1.2	+1.2	BASE
-66	+1.2	+1.2	+1.2	BASE
-67	+1.2	+1.2	+1.2	BASE
-68	+1.2	+1.2	+1.2	BASE
-69	+1.2	+1.2	+1.2	BASE
-70	+1.2	+1.2	+1.2	BASE
-71	+1.2	+1.2	+1.2	BASE
-72	+1.2	+1.2	+1.2	BASE
-73	+1.2	+1.2	+1.2	BASE
-74	+1.2	+1.2	+1.2	BASE
-75	+1.2	+1.2	+1.2	BASE
-76	+1.2	+1.2	+1.2	BASE
-77	+1.2	+1.2	+1.2	BASE
-78	+1.2	+1.2	+1.2	BASE
-79	+1.2	+1.2	+1.2	BASE
-80	+1.2	+1.2	+1.2	BASE
-81	+1.2	+1.2	+1.2	BASE
-82	+1.2	+1.2	+1.2	BASE
-83	+1.2	+1.2	+1.2	BASE
-84	+1.2	+1.2	+1.2	BASE
-85	+1.2	+1.2	+1.2	BASE
-86	+1.2	+1.2	+1.2	BASE
-87	+1.2	+1.2	+1.2	BASE
-88	+1.2	+1.2	+1.2	BASE
-89	+1.2	+1.2	+1.2	BASE
-90	+1.2	+1.2	+1.2	BASE
-91	+1.2	+1.2	+1.2	BASE
-92	+1.2	+1.2	+1.2	BASE
-93	+1.2	+1.2	+1.2	BASE
-94	+1.2	+1.2	+1.2	BASE
-95	+1.2	+1.2	+1.2	BASE
-96	+1.2	+1.2	+1.2	BASE
-97	+1.2	+1.2	+1.2	BASE
-98	+1.2	+1.2	+1.2	BASE
-99	+1.2	+1.2	+1.2	BASE
-100	+1.2	+1.2	+1.2	BASE

Green = 20/20  
 Red = 20/40  
 Blue = 20/80



OS +1.02  
 OD +1.50  
 Base  
 OS +1.2  
 OD +1.2  
 14B - CHEVIGN  
 OS +1.37  
 OD +1.1  
 14B -  
 OS +1.87  
 OD +1.37  
 14B - 10 B0  
 OS +1.12  
 OD +1.2  
 14B +  
 OS +1.57  
 OD +1.37  
 14B - 10 B1  
 15A 10/10x2  
 OS +1.00  
 OD +1.50  
 14A  
 OS - 25 x 30  
 OD - 25 x 155  
 Near Cyl



2	+1.37	+1.2	+1.2
1	+1.37	+1.2	+1.2
BASE	+1.37	+1.2	+1.2
-1	-1.37	-1.2	-1.2
-2	-1.37	-1.2	-1.2
-3	-1.37	-1.2	-1.2

1	+1.37	+1.2	+1.2
2	+1.37	+1.2	+1.2
3	+1.37	+1.2	+1.2
4	+1.37	+1.2	+1.2
5	+1.37	+1.2	+1.2
6	+1.37	+1.2	+1.2
7	+1.37	+1.2	+1.2
8	+1.37	+1.2	+1.2
9	+1.37	+1.2	+1.2
10	+1.37	+1.2	+1.2
11	+1.37	+1.2	+1.2
12	+1.37	+1.2	+1.2
13	+1.37	+1.2	+1.2
14	+1.37	+1.2	+1.2
15	+1.37	+1.2	+1.2
16	+1.37	+1.2	+1.2
17	+1.37	+1.2	+1.2
18	+1.37	+1.2	+1.2
19	+1.37	+1.2	+1.2
20	+1.37	+1.2	+1.2

OS -1.75  
 OD -1.00  
 Classification JKR  
 Date 3/5/62  
 Far pd 68  
 Subj FS 21

LAB: G.L. 187 29  
 Fat pd 63  
 Date 2-27-67  
 Clinician M.D.  
 OS +.25 x .85  
 OS +.25 x .90

NEAR CYL

OD OS

14A

OD +1.25

OS +1.35

15A 2X0

14B C 10 BI

OD +1.12

OS +1.12

14B +

OD +.87

OS +.87

14B C 10 BO

OD +.62

OS +.62

14B -

OD +1.37

OS +1.37

14B C CHEVRON

OD +1.12

OS +1.12

BASE

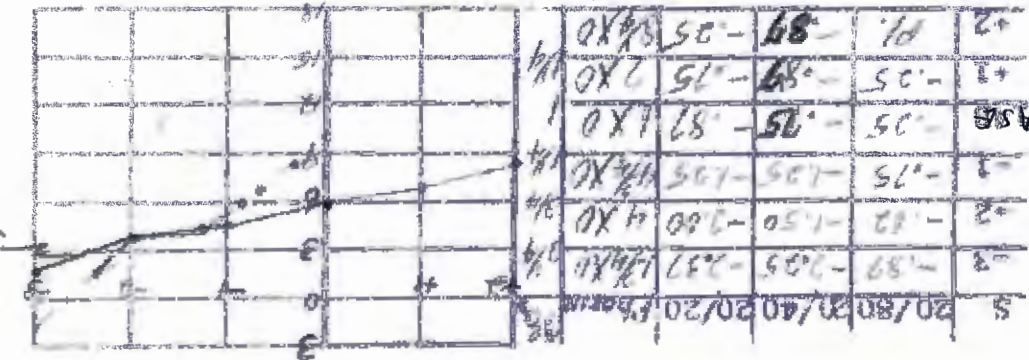
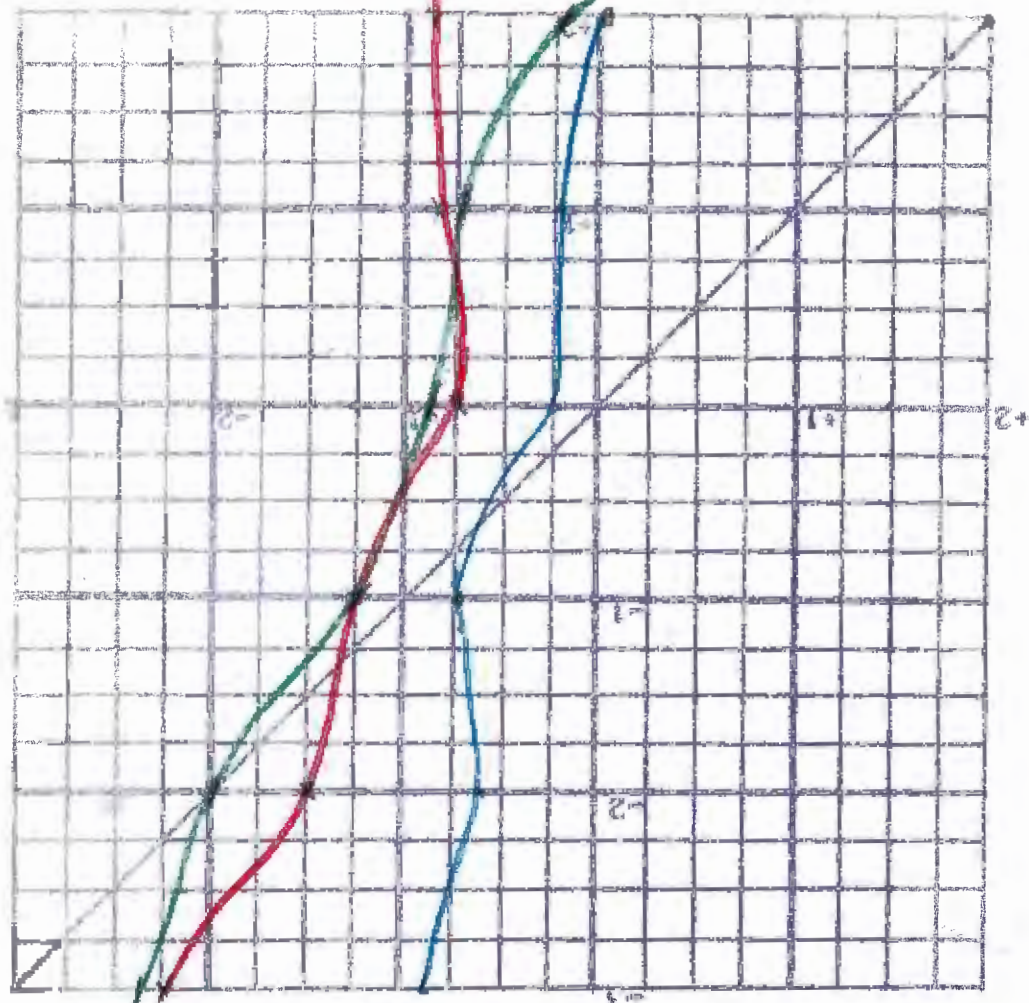
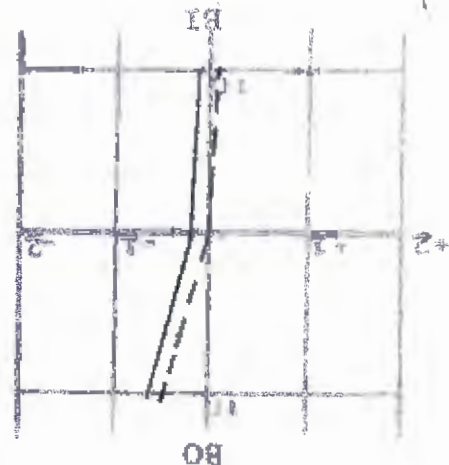
OD +1.05

OS +1.05

Blue = 20/80

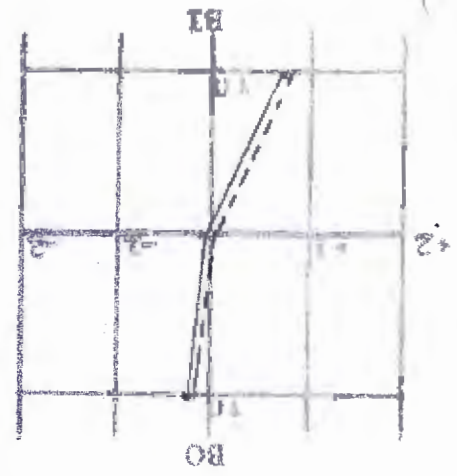
Red = 20/40

Green = 20/20



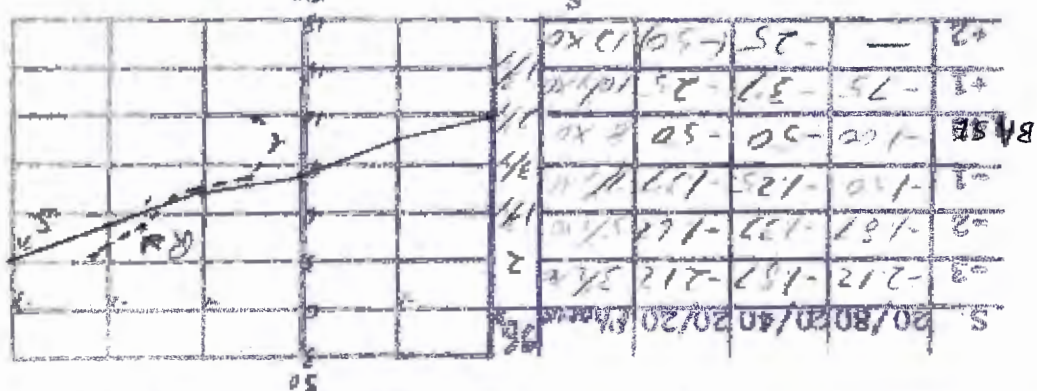
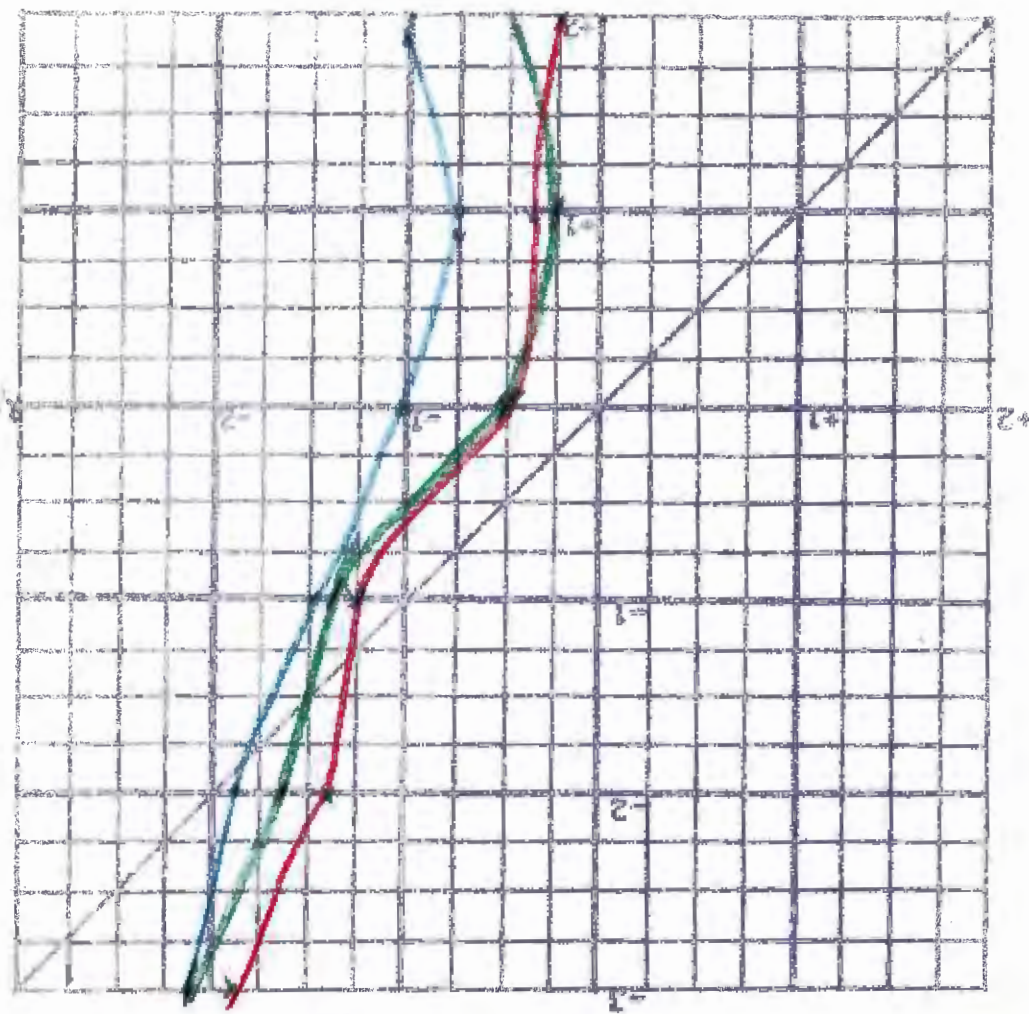
5	20/80	+1.12	+1.37	+1.37	BASE
4	20/40	+1.12	+1.37	+1.37	BASE
3	20/20	+1.12	+1.37	+1.37	BASE
2	20/20	+1.12	+1.37	+1.37	BASE
1	20/20	+1.12	+1.37	+1.37	BASE
0	20/20	+1.12	+1.37	+1.37	BASE
-1	20/20	+1.12	+1.37	+1.37	BASE
-2	20/20	+1.12	+1.37	+1.37	BASE
-3	20/20	+1.12	+1.37	+1.37	BASE
-4	20/20	+1.12	+1.37	+1.37	BASE
-5	20/20	+1.12	+1.37	+1.37	BASE

Green = 20/20  
 Red = 20/40  
 Blue = 20/80



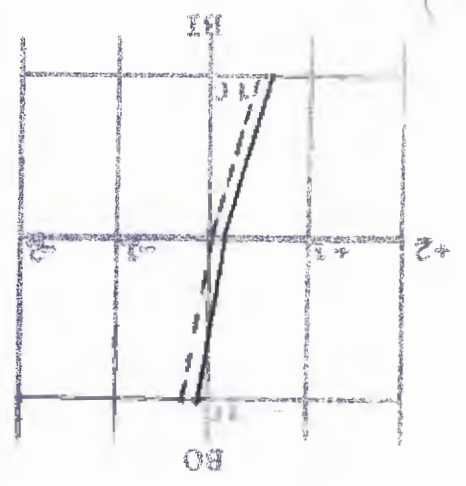
OS - 2.75  
 OD - 3.75  
 Base  
 OS - 7.00  
 OD - 4.50  
 14B - 2.00  
 OS 2.75  
 OD - 3.75  
 14B -  
 OS - 3.15  
 OD - 4.00  
 14B - 3.00  
 OS 2.00  
 OD - 3.00  
 14B +  
 OS - 2.00  
 OD - 3.00  
 14B - 1.00  
 OS - 2.25  
 OD - 3.25  
 14A  
 OS - 1.25 x 150  
 OD - 75 x 150  
 Next Cyl

OS - 4.50 - 100 x 150  
 OD - 5.00  
 upn  
 Clination M 0  
 Date 2/20/62  
 Part Pd 71  
 Proj. RS Age 21



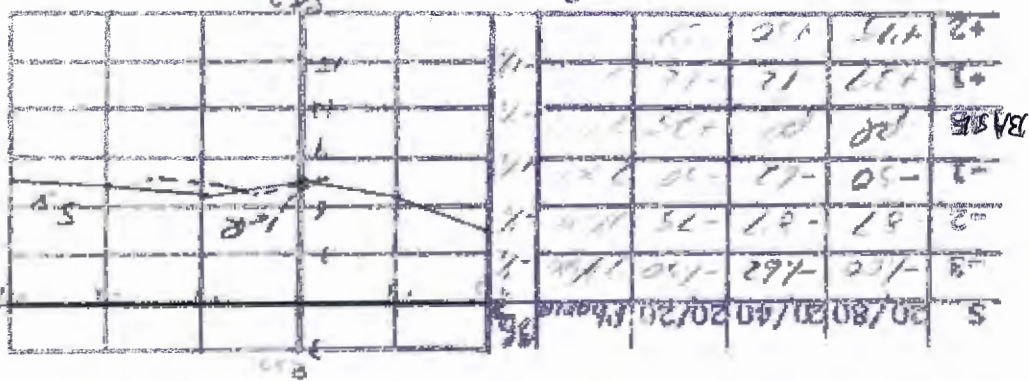
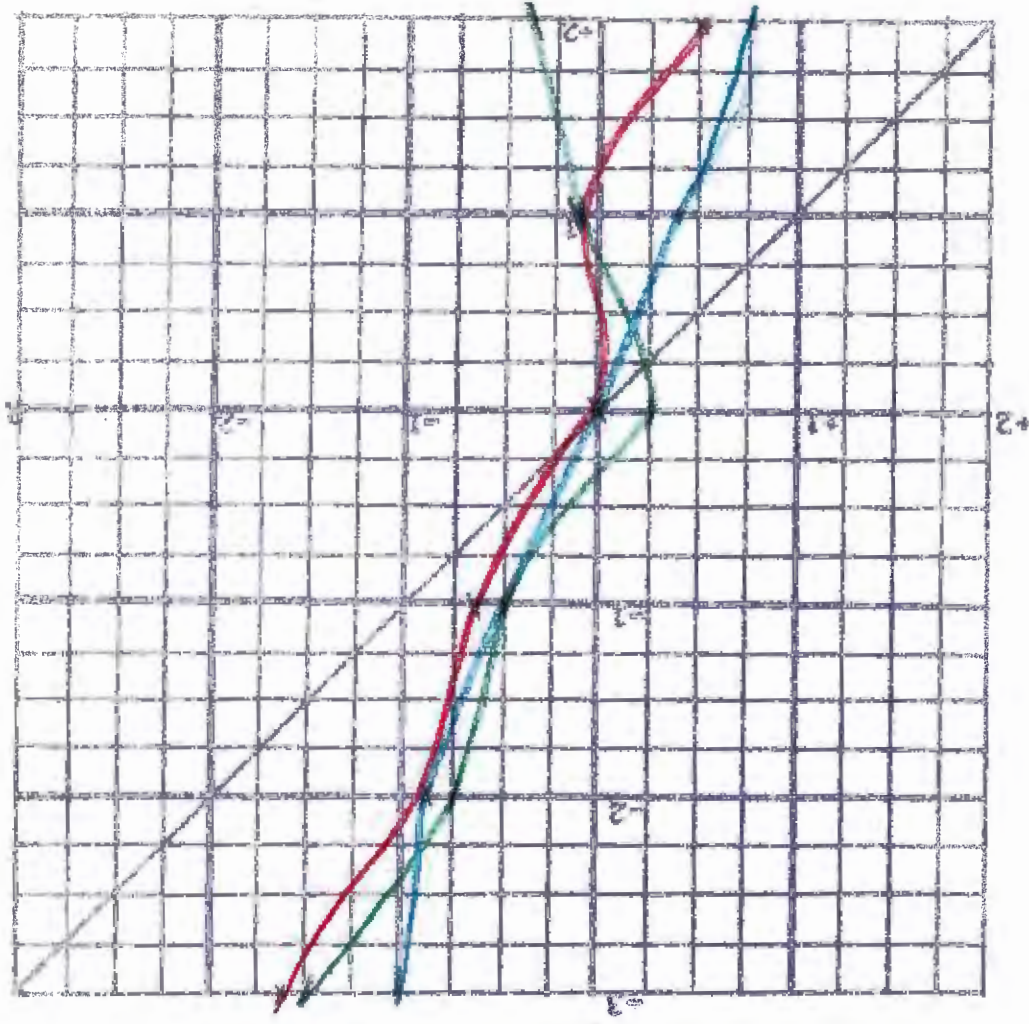
S	20/80/40	20/20	20/40	20/80
BASE	-1.87	-1.31	-1.12	-1.87
+1	-4.12	-4.12	-4.12	-4.12
+2	-4.12	-4.12	-4.12	-4.12
+2	-4.12	-4.12	-4.12	-4.12
+1	-4.12	-4.12	-4.12	-4.12
BASE	-4.57	-4.37	-4.62	-4.57
-1	-5.62	-5.62	-5.62	-5.62
-2	-5.62	-5.62	-5.62	-5.62
-2	-5.62	-5.62	-5.62	-5.62
-1	-5.62	-5.62	-5.62	-5.62
BASE	-4.87	-4.87	-4.87	-4.87
+1	-5.12	-5.12	-5.12	-5.12
+2	-5.12	-5.12	-5.12	-5.12
+2	-5.12	-5.12	-5.12	-5.12
+1	-5.12	-5.12	-5.12	-5.12
BASE	-4.87	-4.87	-4.87	-4.87
-1	-5.12	-5.12	-5.12	-5.12
-2	-5.12	-5.12	-5.12	-5.12
-2	-5.12	-5.12	-5.12	-5.12
-1	-5.12	-5.12	-5.12	-5.12

Green = 20/20  
 Red = 20/40  
 Blue = 20/80



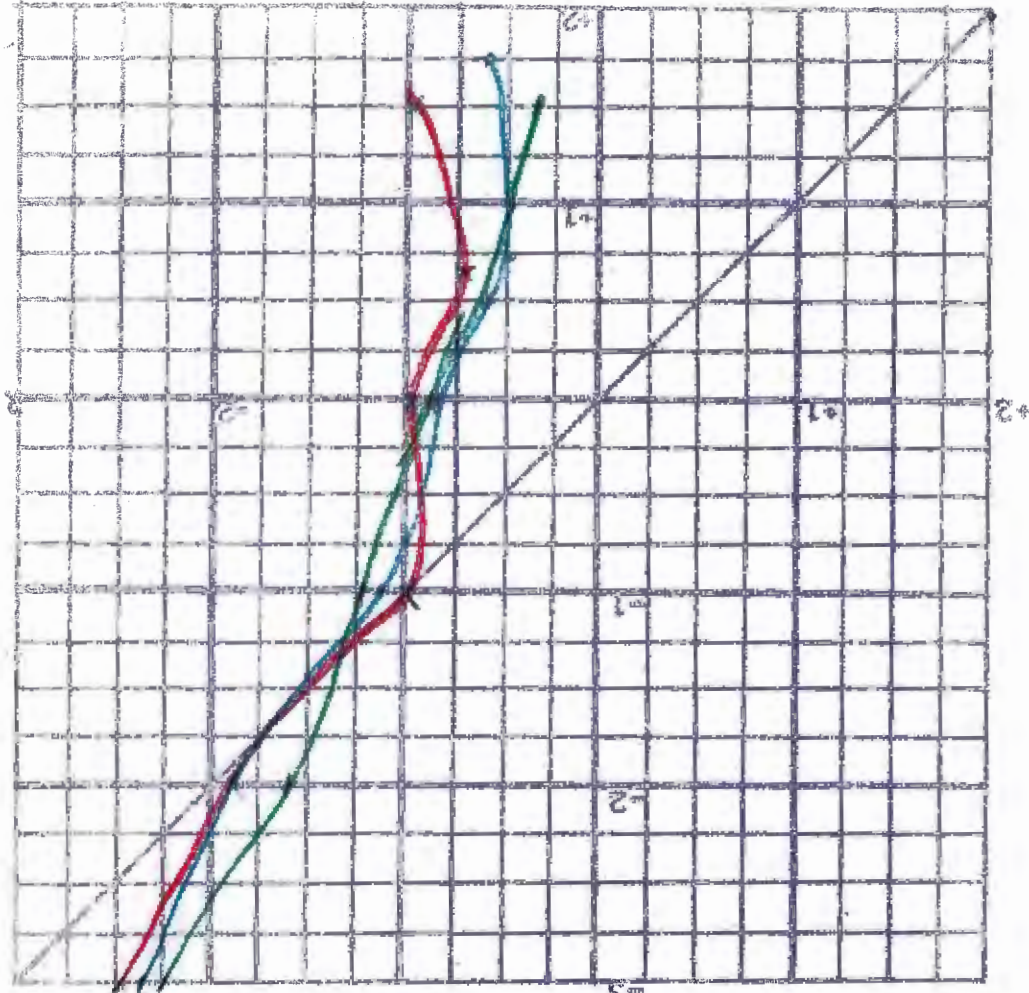
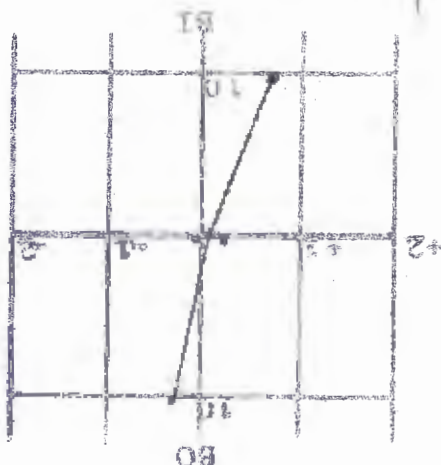
OS +10  
 OD +50  
 Base  
 OS +12  
 OD +12  
 148 = 108000  
 OS +62  
 OD +62  
 148 -  
 OS +12  
 OD +12  
 148 = 10 80  
 OS +62  
 OD +62  
 148 +  
 OS +112  
 OD +112  
 148 = 10 81  
 15A +5 X0  
 OS +62  
 OD +62  
 14A  
 OS -  
 OD -  
 Near Cyl

MD Age 28  
 Fat pd 64  
 Date 2/20/12  
 Cylinder 0 X8  
 OS +12 -25 X15



S	20/80	40/20	20/20	BASE
+2	+115	110	110	BASE
+1	+117	112	112	BASE
-1	-50	-62	-62	BASE
-2	-87	-87	-75	BASE
-3	-100	-100	-100	BASE
-4	-100	-100	-100	BASE
-5	-100	-100	-100	BASE
-6	-100	-100	-100	BASE
-7	-100	-100	-100	BASE
-8	-100	-100	-100	BASE
-9	-100	-100	-100	BASE
-10	-100	-100	-100	BASE
-11	-100	-100	-100	BASE
-12	-100	-100	-100	BASE
-13	-100	-100	-100	BASE
-14	-100	-100	-100	BASE
-15	-100	-100	-100	BASE
-16	-100	-100	-100	BASE
-17	-100	-100	-100	BASE
-18	-100	-100	-100	BASE
-19	-100	-100	-100	BASE
-20	-100	-100	-100	BASE
-21	-100	-100	-100	BASE
-22	-100	-100	-100	BASE
-23	-100	-100	-100	BASE
-24	-100	-100	-100	BASE
-25	-100	-100	-100	BASE
-26	-100	-100	-100	BASE
-27	-100	-100	-100	BASE
-28	-100	-100	-100	BASE
-29	-100	-100	-100	BASE
-30	-100	-100	-100	BASE
-31	-100	-100	-100	BASE
-32	-100	-100	-100	BASE
-33	-100	-100	-100	BASE
-34	-100	-100	-100	BASE
-35	-100	-100	-100	BASE
-36	-100	-100	-100	BASE
-37	-100	-100	-100	BASE
-38	-100	-100	-100	BASE
-39	-100	-100	-100	BASE
-40	-100	-100	-100	BASE
-41	-100	-100	-100	BASE
-42	-100	-100	-100	BASE
-43	-100	-100	-100	BASE
-44	-100	-100	-100	BASE
-45	-100	-100	-100	BASE
-46	-100	-100	-100	BASE
-47	-100	-100	-100	BASE
-48	-100	-100	-100	BASE
-49	-100	-100	-100	BASE
-50	-100	-100	-100	BASE
-51	-100	-100	-100	BASE
-52	-100	-100	-100	BASE
-53	-100	-100	-100	BASE
-54	-100	-100	-100	BASE
-55	-100	-100	-100	BASE
-56	-100	-100	-100	BASE
-57	-100	-100	-100	BASE
-58	-100	-100	-100	BASE
-59	-100	-100	-100	BASE
-60	-100	-100	-100	BASE
-61	-100	-100	-100	BASE
-62	-100	-100	-100	BASE
-63	-100	-100	-100	BASE
-64	-100	-100	-100	BASE
-65	-100	-100	-100	BASE
-66	-100	-100	-100	BASE
-67	-100	-100	-100	BASE
-68	-100	-100	-100	BASE
-69	-100	-100	-100	BASE
-70	-100	-100	-100	BASE
-71	-100	-100	-100	BASE
-72	-100	-100	-100	BASE
-73	-100	-100	-100	BASE
-74	-100	-100	-100	BASE
-75	-100	-100	-100	BASE
-76	-100	-100	-100	BASE
-77	-100	-100	-100	BASE
-78	-100	-100	-100	BASE
-79	-100	-100	-100	BASE
-80	-100	-100	-100	BASE
-81	-100	-100	-100	BASE
-82	-100	-100	-100	BASE
-83	-100	-100	-100	BASE
-84	-100	-100	-100	BASE
-85	-100	-100	-100	BASE
-86	-100	-100	-100	BASE
-87	-100	-100	-100	BASE
-88	-100	-100	-100	BASE
-89	-100	-100	-100	BASE
-90	-100	-100	-100	BASE
-91	-100	-100	-100	BASE
-92	-100	-100	-100	BASE
-93	-100	-100	-100	BASE
-94	-100	-100	-100	BASE
-95	-100	-100	-100	BASE
-96	-100	-100	-100	BASE
-97	-100	-100	-100	BASE
-98	-100	-100	-100	BASE
-99	-100	-100	-100	BASE
-100	-100	-100	-100	BASE

Blue = 20/80  
 Red = 20/40  
 Green = 20/20



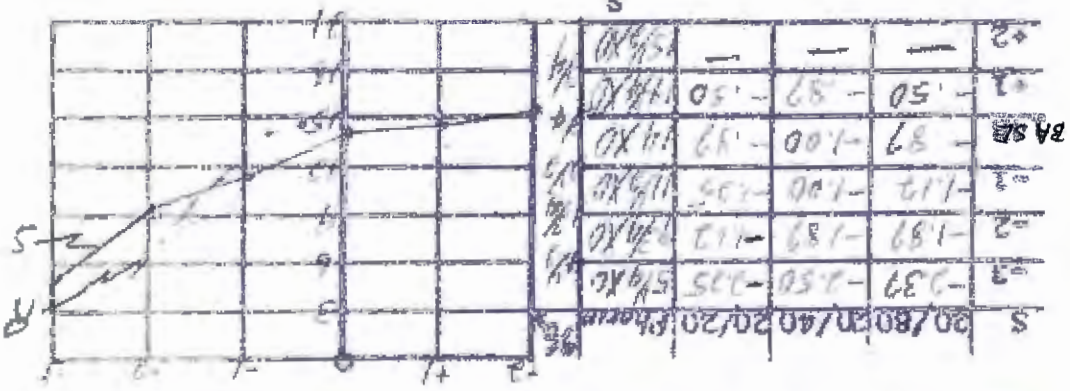
- OS +1.80
- OD +1.75
- Base +1.75
- OS +1.50
- OD +1.40
- 14B Chevron +1.89
- OS +1.69
- OD +1.69
- 14B +1.37
- OS +1.19
- OD +1.19
- 14B C 10 BO +1.12
- OS +1.59
- OD +1.59
- 14B +1.63
- OS +1.53
- OD +1.53
- 14B C 10 RI 17X0
- 15A 17X0
- OS +1.37
- OD +1.19
- 14A
- OS -1.75X20
- OD

-1.75X20

Next Cyl

+1.37-1.55 5  
 +1.95-50/125

Client: N. J. O.  
 Date: 3-5-62  
 Pat pd: 18  
 JND-TNR 88 23



S	P	OS	OD
20/80	+1.19	+1.19	+1.19
20/40	+1.12	+1.12	+1.12
20/20	+1.00	+1.00	+1.00
15/15	+0.87	+0.87	+0.87
10/10	+0.75	+0.75	+0.75
5/5	+0.50	+0.50	+0.50
0/0	0.00	0.00	0.00

J. BF age 23  
 Mar Pd 60  
 Date 2/26/62  
 Clinician M.D.

OD -0.25  
 OS -0.25

Near Cyl  
 OD —  
 OS —

14A  
 OD +0.75  
 OS +0.75

15A 10 X0

14B 10 BI  
 OD +0.62  
 OS +0.62

14B+  
 OD +0.12  
 OS +0.12

14B 10 BO  
 OD -0.37  
 OS -0.37

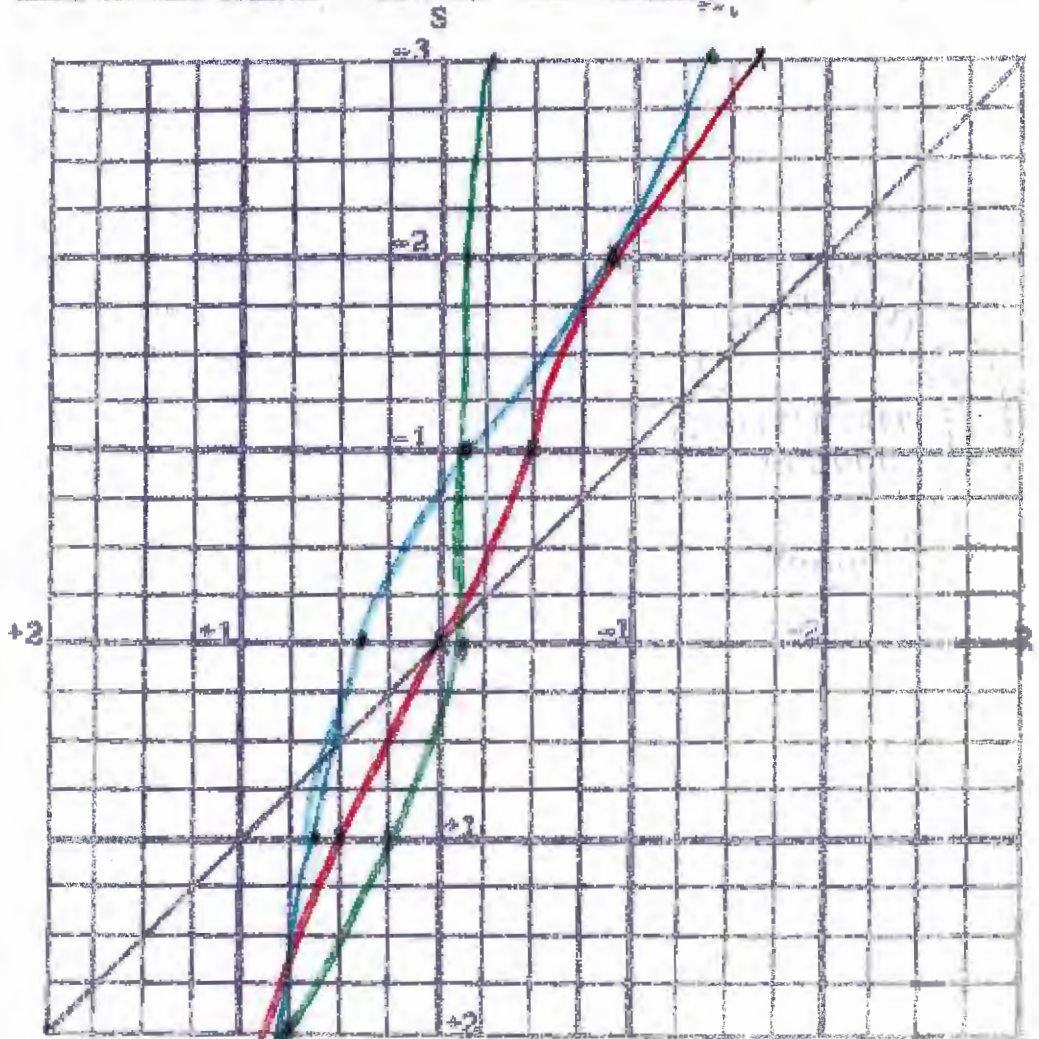
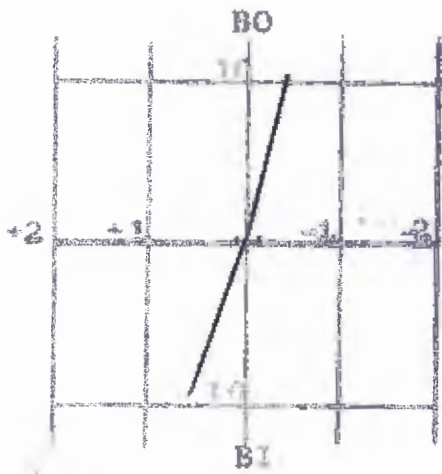
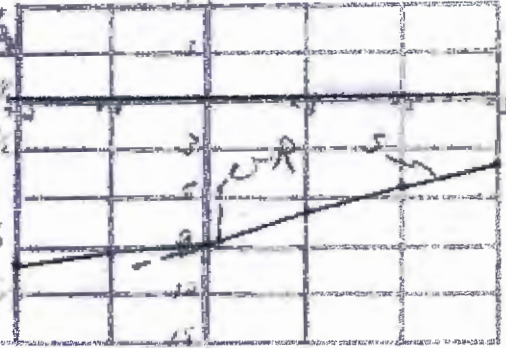
14B  
 OD -0.12  
 OS -0.12

14B chevron  
 OD +0.12  
 OS +0.12

Base  
 OD pl  
 OS pl

	L 20/80	R 20/40	L 20/20	Phoria
BASE	+0.62	-0.12	-0.37	10, 15 X0
+1	+0.87	+0.62	+0.12	10, 15 X0
+2	+0.87	+1.12	+1.00	17, 22 X0
+2	+0.62	+0.50	+0.50	10, 12 X0
+1	+0.62	+0.37	+0.25	10, 12 X0
BASE	+0.37	+0.12	+0.12	10, 12 X0
-1	+0.12	-0.12	-0.12	5, 5 X0
-2	-0.62	-1.00	-0.12	5, 5 X0
-3	-1.12	-1.62	-0.37	10, 4 X0
-3	-1.62	-1.62	-0.12	6, 4 X0
-2	-1.00	-0.87	-0.12	6, 6 X0
-1	-0.37	-0.87	-0.12	8, 5 X0
BASE	+0.12	-0.12	-0.12	10, 12 X0

S	20/80	20/40	20/20	Phoria	%
-3	-1.37	-0.62	-0.25	4 X0	12
-2	-0.87	-0.87	-0.12	1, 6 X0	12
-1	-0.12	-0.50	-0.12	7 X0	2
BASE	-0.37	0.00	-0.12	9 X0	1/2
+1	+0.62	+0.50	+0.25	9, 20 X0	1/2
+2	+0.75	+0.75	+0.75	10, 10 X0	1/2



Blue = 20/80  
 Red = 20/40  
 Green = 20/20



Subj: H.L. Age 27  
 Pat Pd 61  
 Date 3-5-62  
 Clinician J.W.B.  
 "np"

OD -1.00 - .50 X135  
 OS - .87 - .25 X13

Near Cyl

OD - .75 X135  
 OS - .75 X175

14A

OD +.75  
 OS +1.25

15A 10-10X1

14B 10 BI  
 OD +.62  
 OS +1.12

14B+

OD +.37  
 OS +.87

14B 10 BO

OD -.37  
 OS +.12

14B -

OD +.12  
 OS +.62

14B chevron

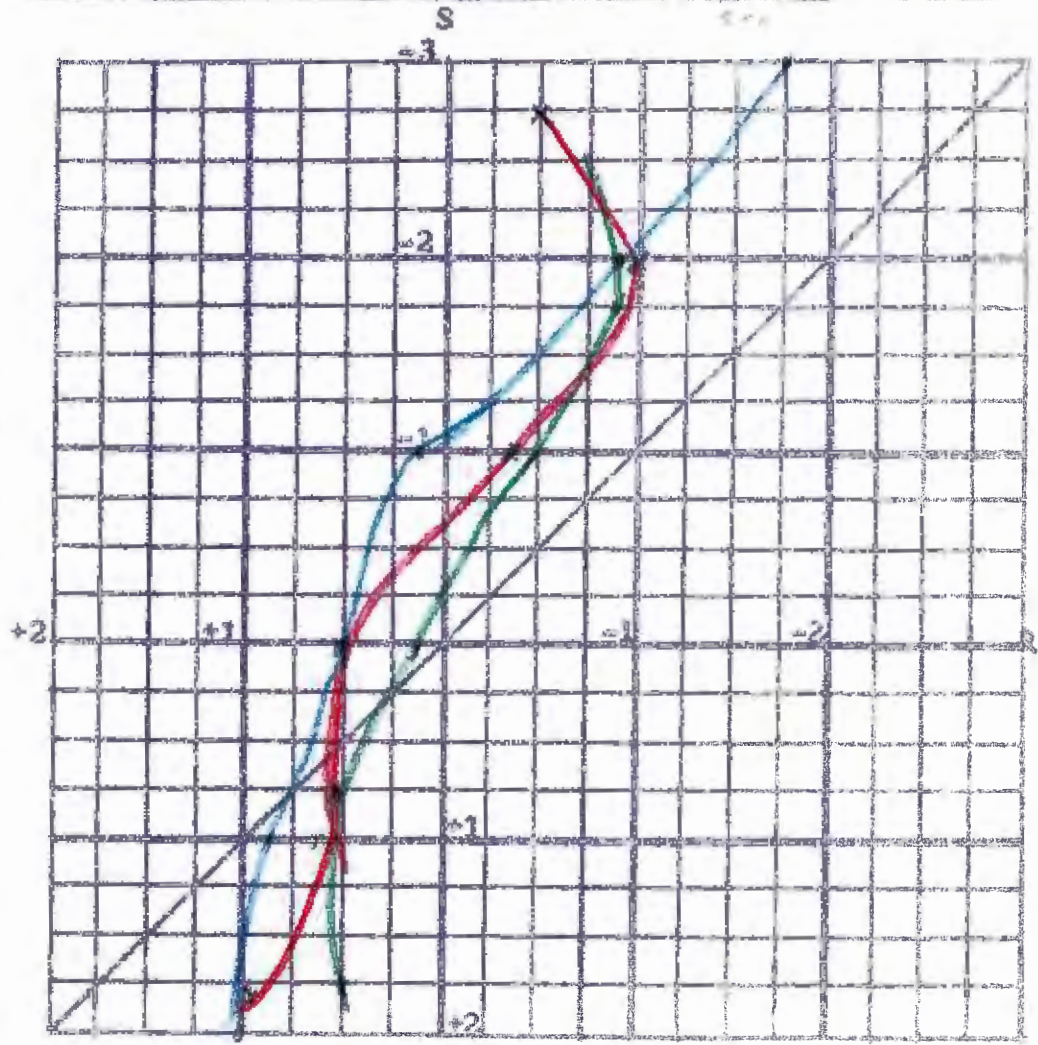
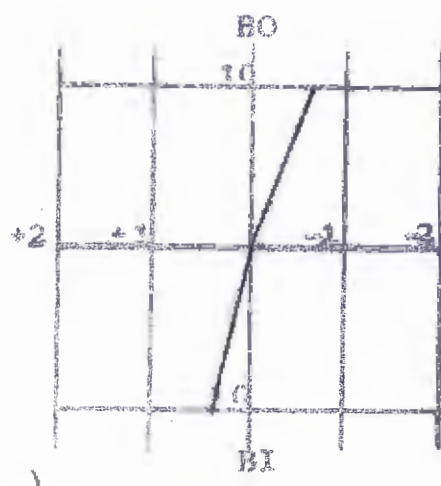
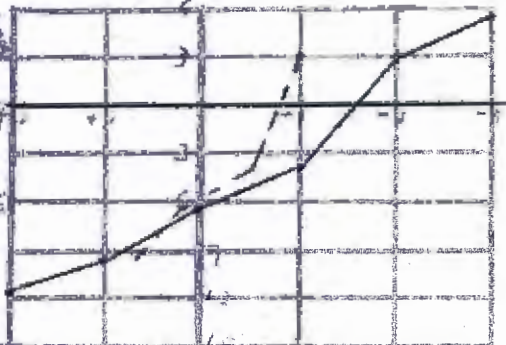
OD +.12  
 OS +.62

Base

OD +.25  
 OS +.75

S	Δ	R 20/80	Δ	R 20/40	Δ	R 20/20	Phos
BASE		+ .87		+ .62		+ .62	8-7X0
+1		+1.12	531	+ .87	531	+1.12	11-9X0
+2		+1.12	531	(+1.37)	531	(+1.12)	12-12X0
+2		+1.37	531	(+1.37)	531	(+ .87)	13-15X0
+1		+1.12	531	+1.12	531	+ .87	13-11X0
BASE		+ .87		+ .87		+ .12	9-9X0
=1		+ .87		+ .12		- .12	7-7X0
=2		- .62		- .62		- .87	1-3 50
=3		-1.37		(+1.12)	380	(- .62)	5-6 50
=3		-1.75	350	-2.12	350	-1.37	7-6 50
=2		- .62		- .87	380	- .87	3-3 50
=1		- .12		- .37		- .37	2-2 X0
BASE		+ .62		+ .87		+ .62	6-6 X0

S	20/80	20/40	20/20	Phos	75
-3	-1.75	-	-	5 50	3 1/2
-2	- .87	-1.00	-1.00	3 50	2 1/2
-1	+ .12	- .37	- .50	4 X0	2 1/2
BASE	+ .50	+ .50	+ .12	6 1/2 X0	3
+1	+ .87	+ .62	+ .62	7 1/2 X0	3
+2	+1.00	-	-	11 1/2 X0	3

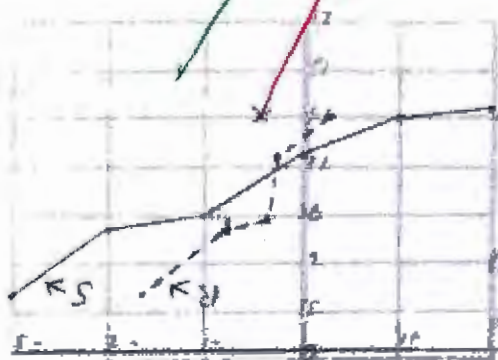
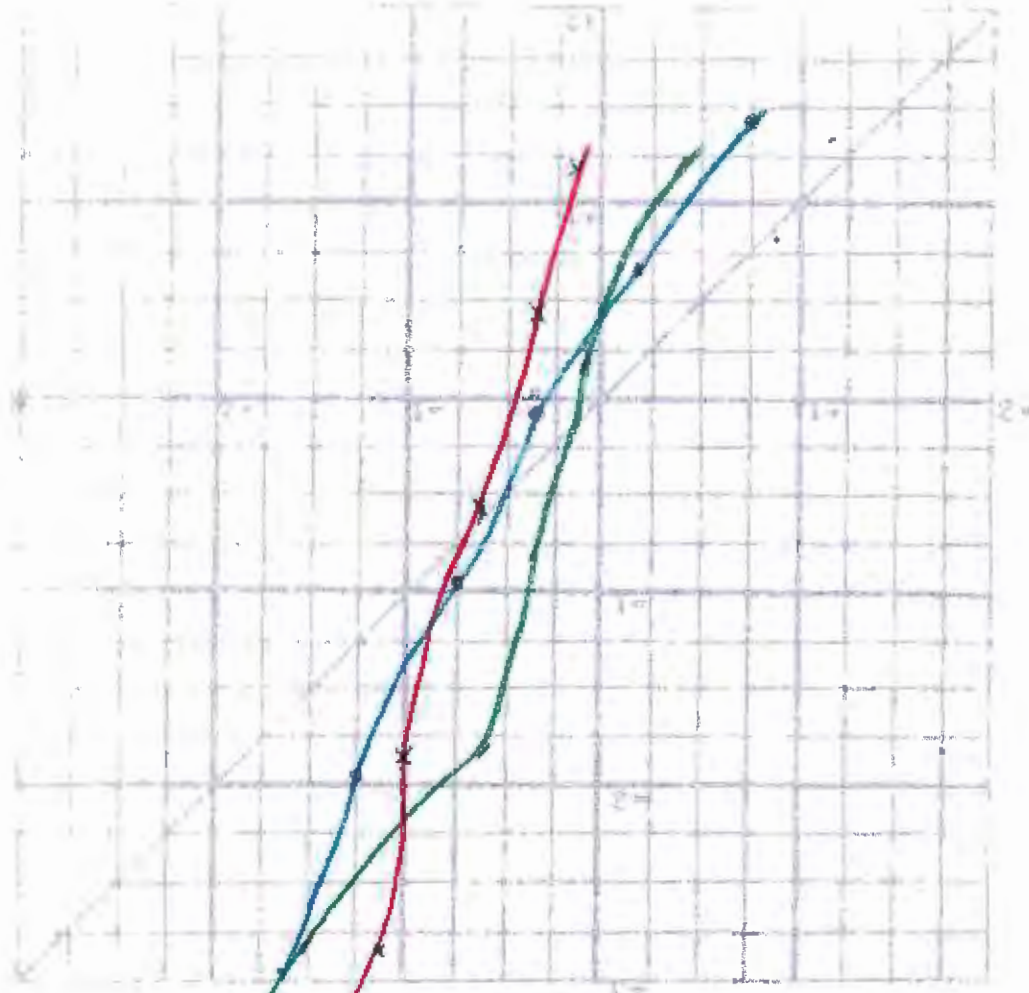


Blue = 20/80  
 Red = 20/40  
 Green = 20/20



- +2.05
- +2.25
- +1.87
- +3.12
- +1.62
- +1.87
- +1.12
- +1.37
- +2.12
- +2.37
- +2.87
- +3.12
- +2.62
- +2.87

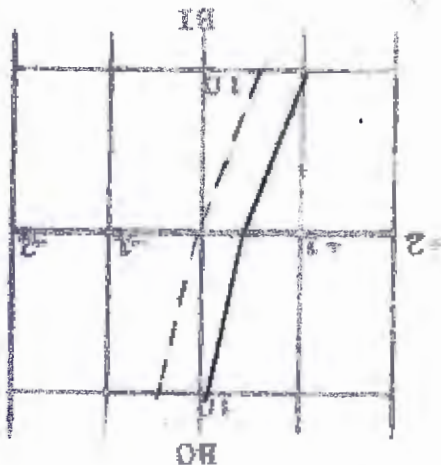
-1.50 X 100  
 -75 X 90  
 +1.00 X 100  
 +75 - 75 X 75  
 R 5.7  
 2-14-62  
 T.R. ARE 25  
 64



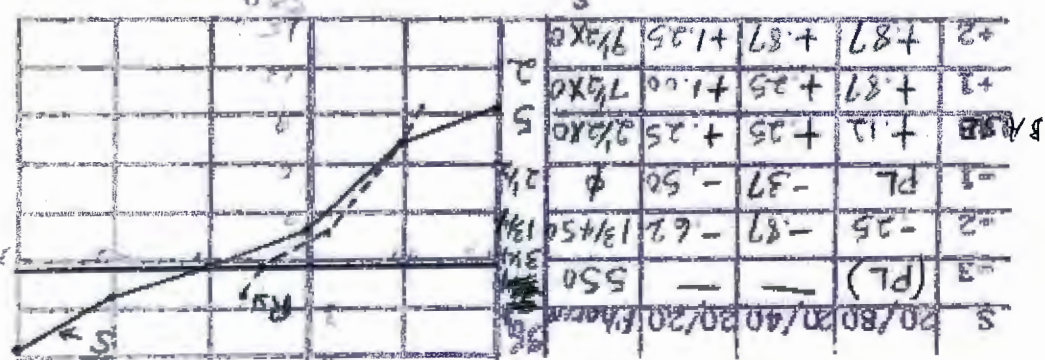
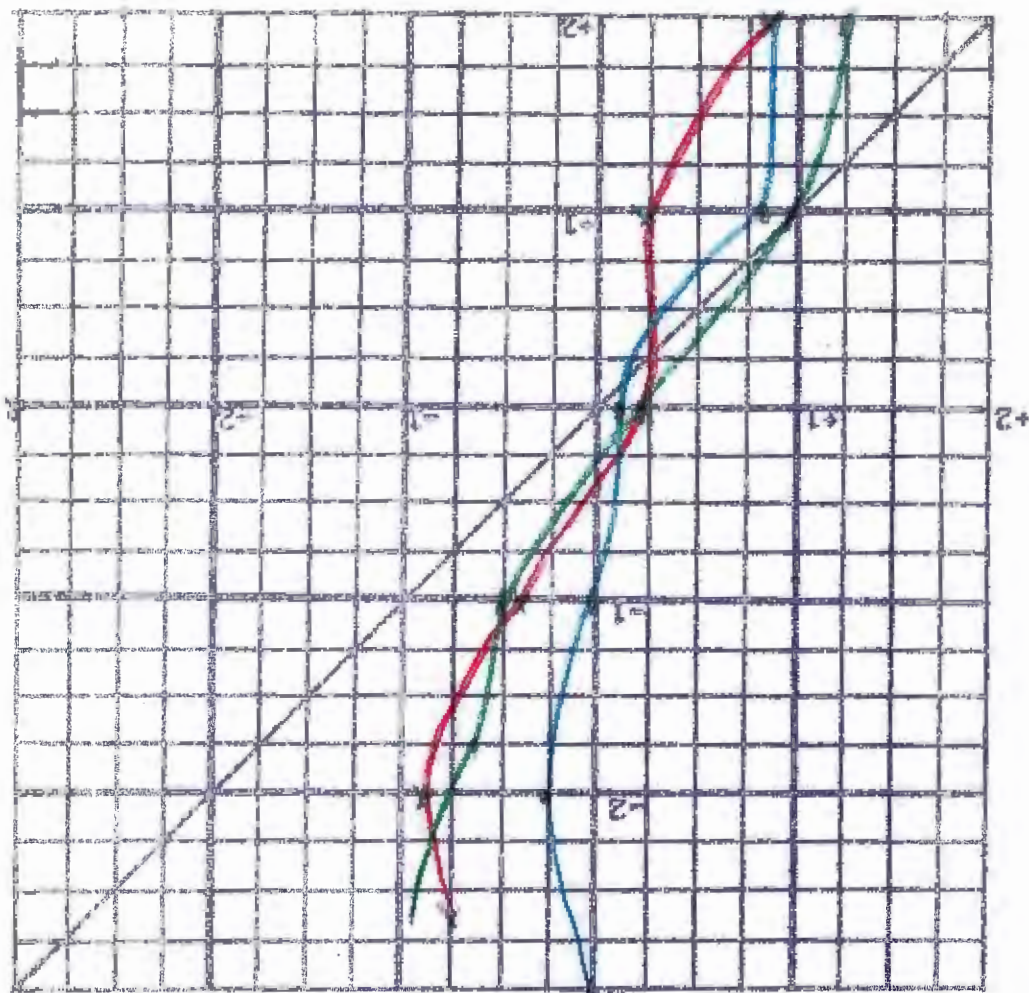
R	B
1	1.12
2	1.25
3	1.37
4	1.50
5	1.62
6	1.75
7	1.87
8	2.00
9	2.12
10	2.25
11	2.37
12	2.50
13	2.62
14	2.75
15	2.87
16	3.00
17	3.12
18	3.25
19	3.37
20	3.50

R	B
1	1.12
2	1.25
3	1.37
4	1.50
5	1.62
6	1.75
7	1.87
8	2.00
9	2.12
10	2.25
11	2.37
12	2.50
13	2.62
14	2.75
15	2.87
16	3.00
17	3.12
18	3.25
19	3.37
20	3.50

Green = 20/20  
 Red = 20/40  
 Blue = 20/80



OS + 1.00  
 OD + 1.00  
 Base  
 OS + 6.2  
 OD + 6.2  
 14B CHEVROLET  
 OS + 1.37  
 OD + 1.37  
 14B  
 OS + 1.12  
 OD + 1.12  
 14B 10 BO  
 OS + 1.62  
 OD + 1.62  
 14B +  
 OS + 2.12  
 OD + 2.12  
 14B 10 BI  
 15A 8X0  
 OS + 2.25  
 OD + 2.25  
 14A  
 OS -  
 OD - 25X18  
 Near Cyl  
 OS + 6.2  
 OD + 6.2



BASE	+7.5	+1.37	+1.12	4 4X0
+1	+1.87	+1.12	+1.87	8 8X0
+2	+2.12	+1.87	+2.37	10 10X0
+3	+1.62	+1.37	+2.12	10 10X0
+1	+1.87	+1.37	+2.12	10 8X0
BASE	+1.62	+1.37	+1.37	4 4X0
-1	+1.37	+1.37	+1.25	4 4X0
-2	+1.12	+1.37	+1.12	3 450
-3	+1.37	+1.37	+1.12	4 450
-3	(+1.62)	(-1.12)	-1.12	8 750
-2	+1.37	(-1.12)	-1.12	8 750
-1	+1.37	-1.12	-1.12	8 750
BASE	+1.12	+1.12	+1.12	2 250
-1	+1.12	+1.12	-1.12	2 250
-2	+1.12	+1.12	-1.12	2 250
-3	+1.12	+1.12	-1.12	2 250

Page 22  
 Date 2/22/60  
 Clinician MD  
 OS + 6.2  
 OD + 6.2

23

Subj: W.Ho. Age 23  
 Far Pd 64  
 Date 2-10-62  
 Clinician R.J.L  
 opt

OD +.62 -.25 X 180  
 OS +.62 -.25 X 180

Near Cyl

OD -.25 X 15  
 OS -.25 X 180

14A

OD +1.37  
 OS +1.37

15A 4-4 X 0

14B  $\ominus$  10 BI

OD +1.62  
 OS +1.62

14B  $\nabla$

OD +1.62  
 OS +1.62

14B  $\ominus$  10 BO

OD +1.37  
 OS +1.37

14B  $\ominus$

OD +1.62  
 OS +1.62

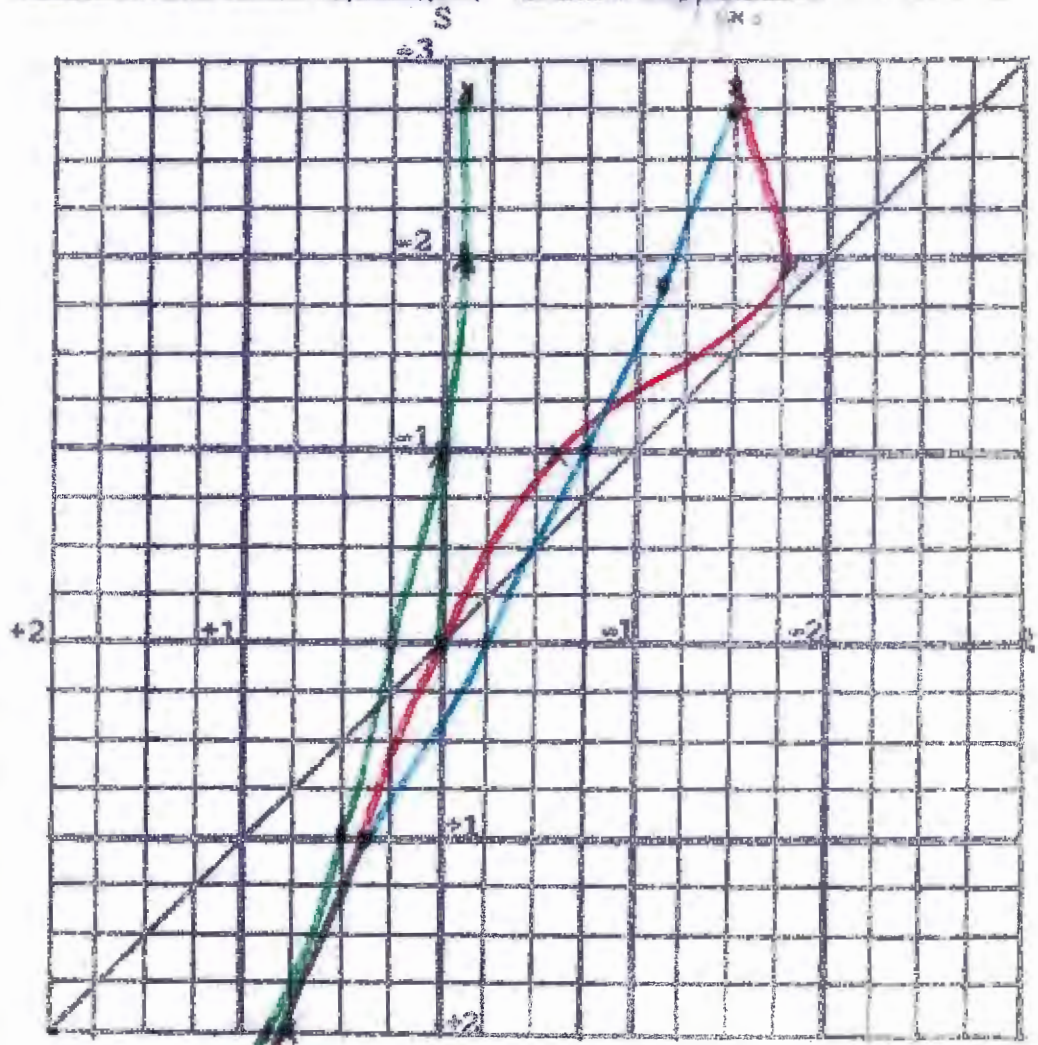
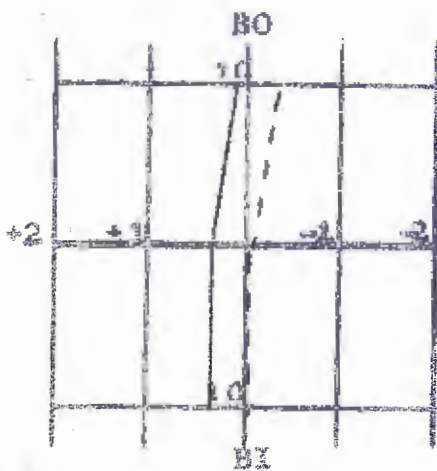
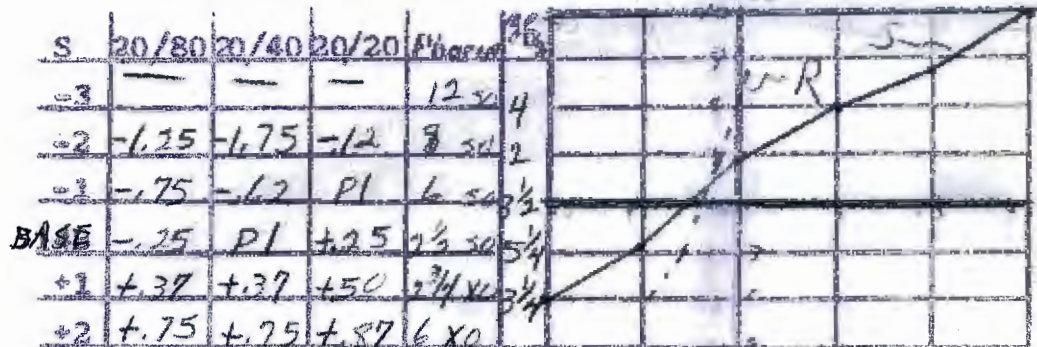
14B  $\ominus$  chevron

OD +1.25  
 OS +1.25

Base

OD +1.25  
 OS +1.25

S	R 20/80	L 20/40	R 20/20	Profit
BASE	+1.12	+1.25	+1.25	$\phi$ -2.50
+1	+1.50	+1.50	+1.50	3.1 X 0
+2	+1.75	+2.00	+1.87	7.5 X 0
+2	+2.25	+2.00	+2.50	5.8 X 0
+1	+1.75	+1.75	+2.00	6.3 X 0
BASE	+1.50	+1.50	+1.62	2.4 X 0
-1	+1.00	+1.12	+1.25	7.1 X 50
-2	480 +.25	-.75	+1.12	9.1 X 50
-3	880 -.50	680 (+.37)	680 +1.00	10.1 X 50
-3	580 -.75	680 (-1.12)	680 +1.00	16.1 X 50
-2	880 -.25	680 -.75	+1.25	8.1 X 50
-1	PI	PI	+1.12	4.6 X 50
BASE	+1.50	+1.75	+1.50	4.6 X 50



Blue = 20/80  
 Red = 20/40  
 Green = 20/20

Subj: HM AGE 30  
 Far Pd 70  
 Date 2/12/62  
 Clinician RJA  
 "p"

OD +75 -50x90  
 OS +25

Near Cyl

OD -25 x 75  
 OS -25 x 100

14A

OD +2.25  
 OS +2.00

15A 25x0

14B = 10 BI

OD +1.12  
 OS +.87

14B +

OD -.12  
 OS -.37

14B = 10 BO

OD -1.37  
 OS -1.62

14B -

OD +.12  
 OS -.12

14B = chevron

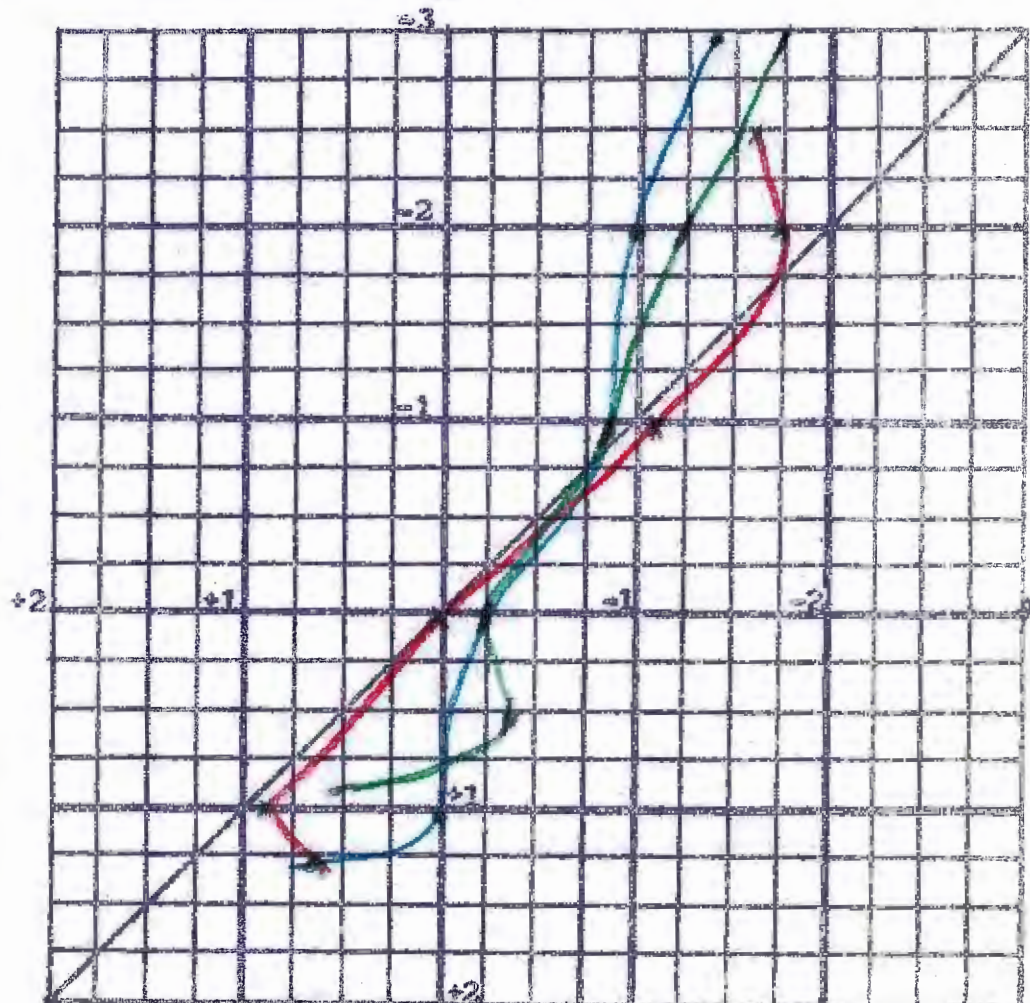
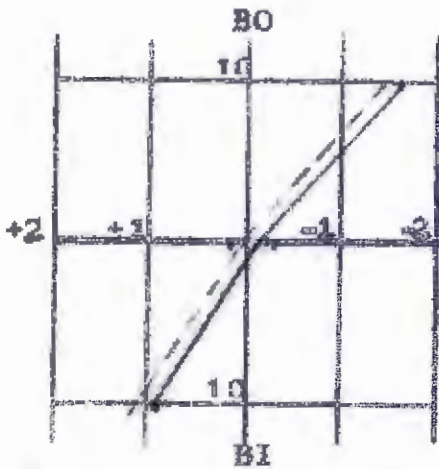
OD +.12  
 OS -.12

Base

OD +25  
 OS pl

S	Δ R 20/80	Δ R 20/40	Δ R 20/20	Phoria	
BASE	+12	+12	+12	8.5 X0	
+1	+87	+137	401	-37	17.1 X0
+2	601 +1.62	601 +1.62	1201 +1.62	(25, 200)	
+2	601 +1.62	601 +1.62	801 +2.12	(25, 200)	
+1	-37	+87	401	+1.12	15.1 X0
BASE	-12	+37	+62	11.1 X0	
-1	-12	-12	-12	7.5 X0	
-2	-37	-1.12	-37	4.4 X0	
-3	-87	400	-1.75	6.2 X0	
-3	-137	400	-2.12	5.1 X0	
-2	-1.62	-1.62	-1.62	4.5 X0	
-1	-1.12	-1.62	-1.12	3.5 X0	
BASE	-87	-37	401	-17	10.1 X0

S	20/80	20/40	20/20	Phoria	%
-3	-1.37	-	-1.75	3 3/4 X0	8%
-2	-1.00	-1.75	-1.25	4 1/4 X0	1 1/4%
-1	-.87	-1.12	-.87	6 1/2 X0	2 1/4%
BASE	-.25	pl	-.25	8 1/2 X0	4 1/2%
+1	pl	+1.12	-	13 1/2 X0	8 3/4%
+2	-	-	-	22 X0	14%



Blue = 20/80  
 Red = 20/40  
 Green = 20/20

Subj: RH Age 24  
 Far Pd 64  
 Date 3-3-62  
 Clinician RJL  
 upr

OD -37 -25 X90 } CL  
 OS -37 -25 X90 } -4.25  
 } -4.50

Near Cyl

OD —  
 OS —  
 14A  
 OD +1.62  
 OS +1.37

15A 8X0

14B ~ 10 BI

OD +1.12  
 OS +.87

14B +

OD +1.12  
 OS +.87

14B ~ 10 BO

OD +.62  
 OS +.37

14B ~

OD +1.12  
 OS +.87

14B ~ chevron

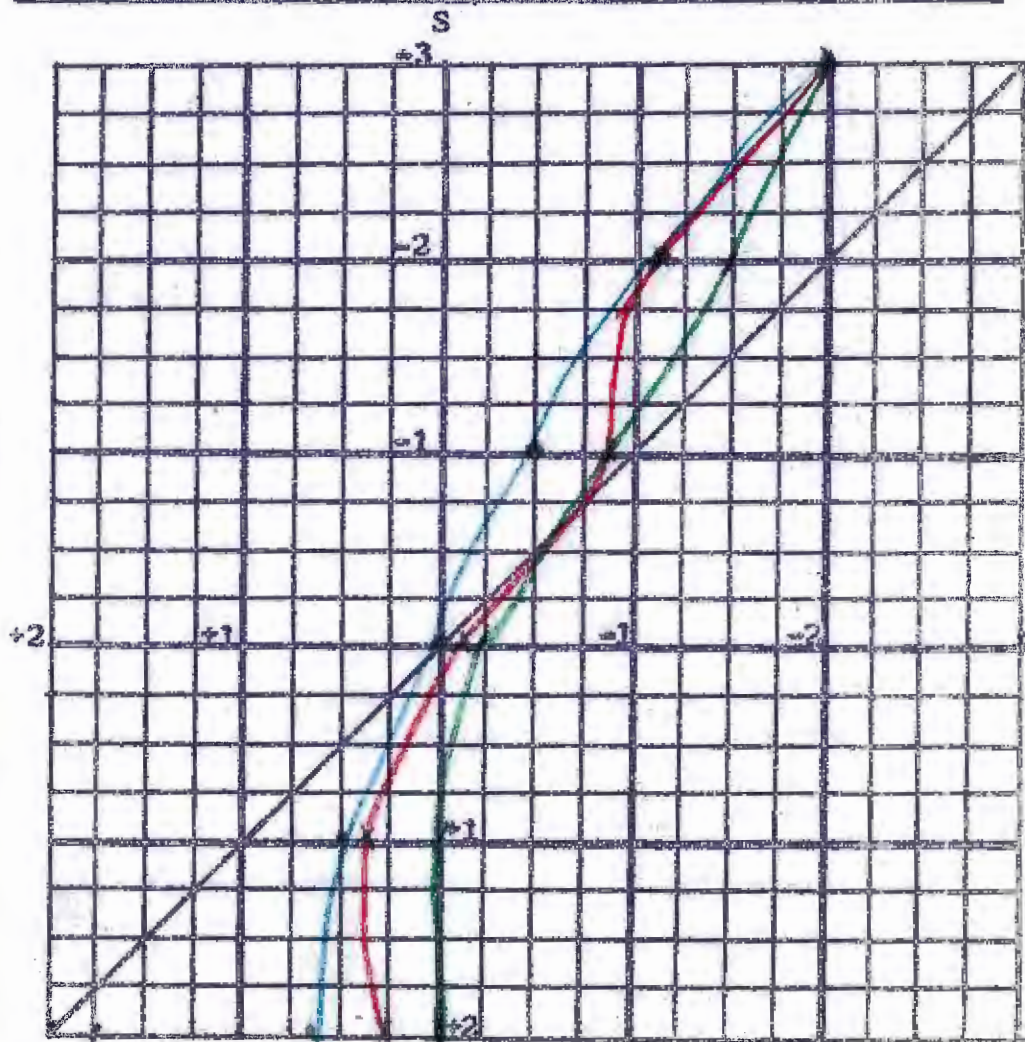
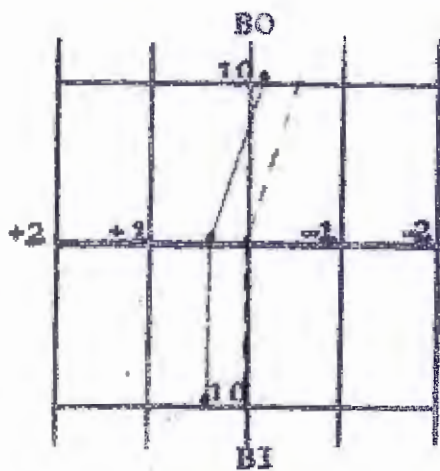
OD +.62  
 OS +.37

Base

OD +.75  
 OS +.50

S	Δ	R 20/80	R 20/40	R 20/20	Phoria
BASE		+1.87	+1.12	+1.87	5-6X0
+1		+1.37	+1.12	+1.87	10-11X0
+2		+1.37	+1.12	(+.62)	11-11X0
+2		+1.37	+1.87	(+.87)	13-13X0
+1		+1.12	+1.12	+1.62	11-11X0
BASE		+1.87	+1.37	+1.37	9-8X0
-1		+1.37	-.37	-.37	5-5X0
-2		-.62	-.87	-.62	4-4X0
-3		-1.87	-1.62	-1.12	2-2X0
-3		-.62	-.87	-1.37	2-2X0
-2		-.12	+.12	-.87	4-3X0
-1		+1.12	+1.12	+1.12	5-5X0
BASE		+1.62	+1.37	+1.12	8-6X0

S	20/80	20/40	20/20	Phoria	36
-3	-2.00	-2.00	-2.00	1 3/4 X0	1 1/2
-2	-1.12	-1.12	-1.50	3 1/4 X0	1
-1	-.50	-.87	-.87	4 1/4 X0	1 1/4
BASE	PL	-.12	-.25	6 X0	3 1/4
+1	+1.50	+1.37	PL	9 1/4 X0	1
+2	+1.62	+1.25	(PL)	10 1/4 X0	



Blue = 20/80  
 Red = 20/40  
 Green = 20/20

26

Subj: R.T. Age 28  
 Far Pd 62  
 Date 3-3-62  
 Clinician R.J.L.  
 "pn"

OD +.25  
 OS P1.

Near Cyl  
 OD -.25 X 175  
 OS -.25 X 180

14A  
 OD +1.87  
 OS +1.62

15A 9,9 X 0

14B ⊙ 10 BI  
 OD +1.87  
 OS +1.62

14B †  
 OD +1.12  
 OS +0.87

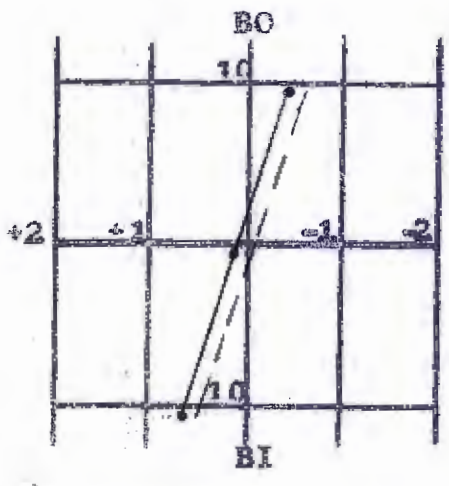
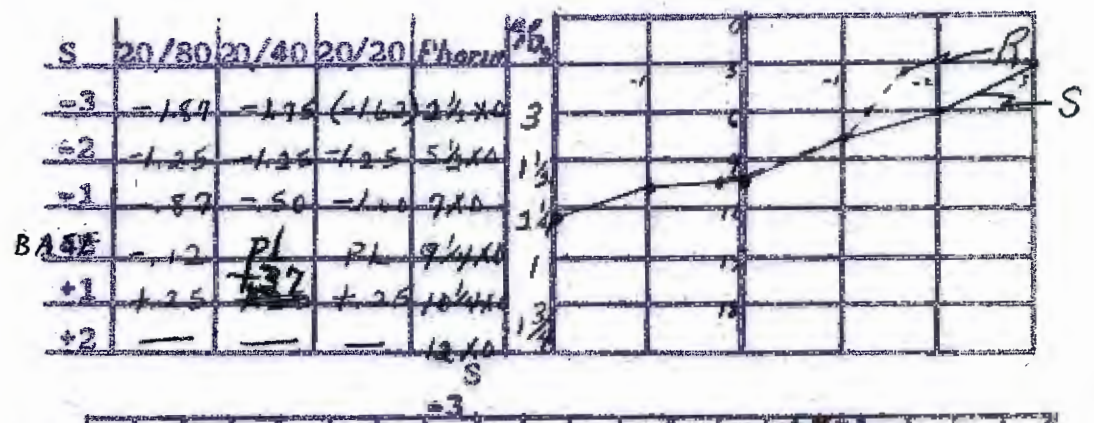
14B ⊙ 10 BO  
 OD +.87  
 OS +.62

14B -  
 OD +1.12  
 OS +.87

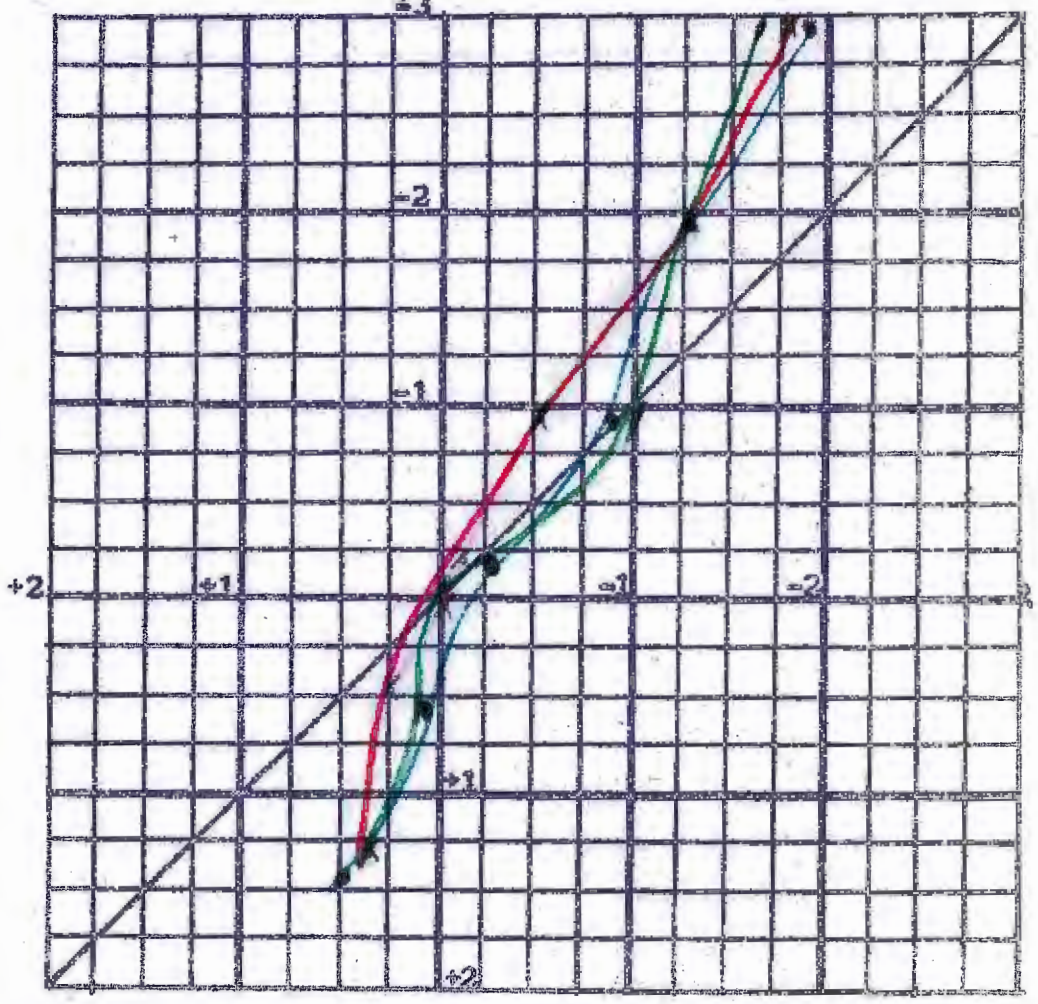
14B ⊙ chevron  
 OD +1.12  
 OS +.87

Base  
 OD +1.25  
 OS +1.00

S	A	R	20/80	A	R	20/40	A	R	20/20	Phoria
BYRSE	4BI		+1.75			+1.37			+1.37	10-10 X 0
+1	8BI		+2.12	8BI		+2.12	8BI		+1.87	12-12 X 0
+2	8BI		+2.37	10BI		+2.37	10BI		(+2.37)	14-14 X 0
+2	8BI		+2.37	10BI		+2.37	10BI		(+2.37)	14-14 X 0
+1	4BI		+1.62	8BI		+1.12	4BI		+1.87	12-12 X 0
BASE	4BI		+1.37	4BI		+1.37			+1.37	11-11 X 0
-1			+1.62			+1.37			+1.62	8-8 X 0
-2			-12			+2.25			+2.25	7-7 X 0
-3			-12			.37			(-1.25)	3-3 X 0
-3			-1.12			.62			(-1.37)	3-3 X 0
-2			+1.12			.12			-1.12	6-6 X 0
-1			+1.12			+1.12			-1.12	8-8 X 0
BASE			+1.62	4BI		+1.25	4BI		+1.37	10-10 X 0



Blue = 20/80  
 Red = 20/40  
 Green = 20/20



Subj: KA Age 27  
 Far Pd 66  
 Date 3/2/62  
 Clinician RJL  
 "pm"

OD -1.25 -50 x 173  
 OS -1.50 -50 x 173

Near Cyl

OD -50 x 180  
 OS -1.00 x 15

14A

OD +37  
 OS +62

15A 6, 6 x 0

14B = 10 BI

OD +12  
 OS +37

14B +

OD -12  
 OS +12

14B = 10 BO

OD -57  
 OS -62

14B -

OD -62  
 OS -37

14B = chevron

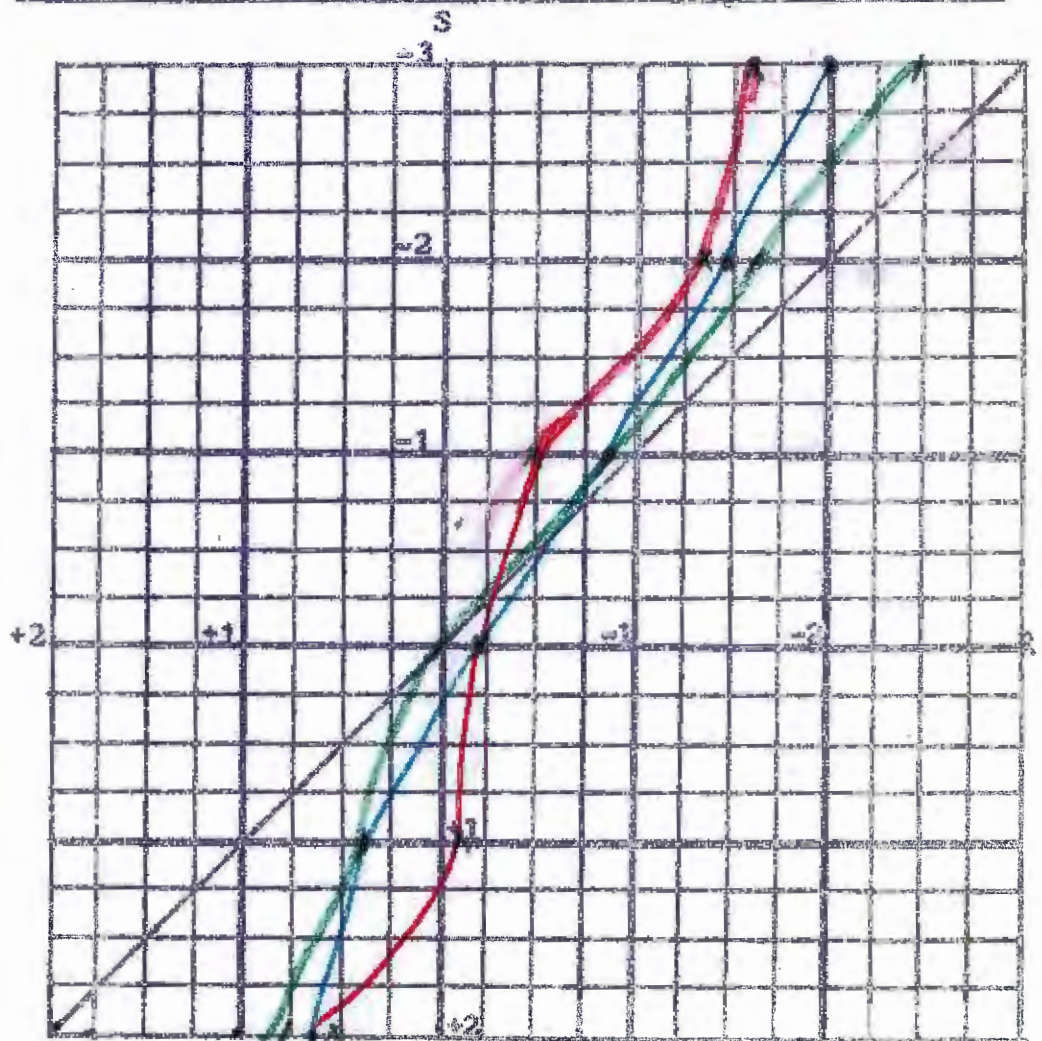
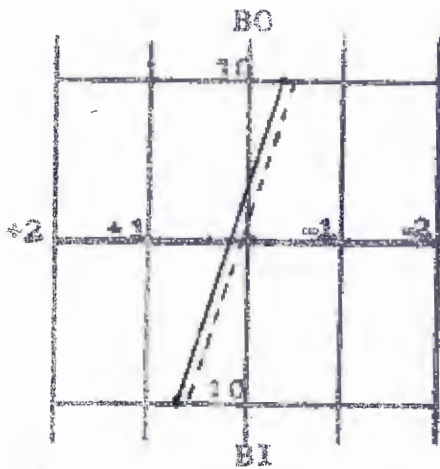
OD -57  
 OS -62

Base

OD -50  
 OS -25

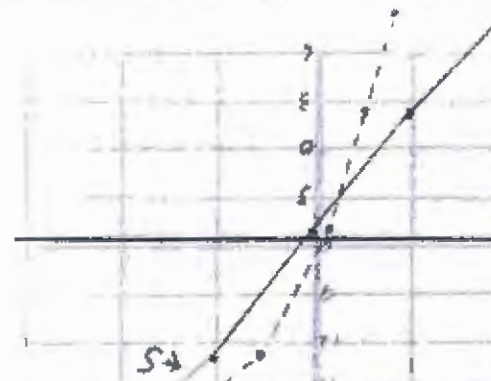
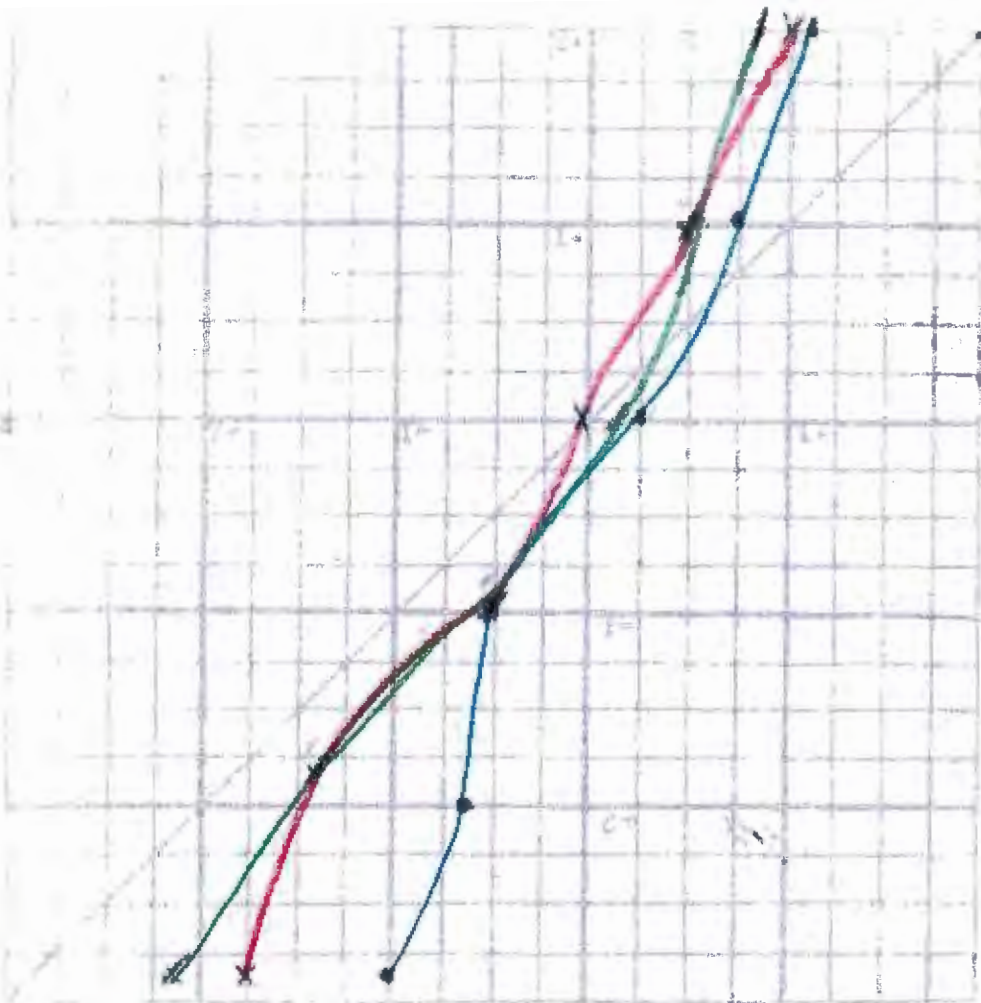
S	Δ R 20/80	Δ R 20/40	Δ R 20/20	Phoria
BASE	-57	-112	-37	φ φ
+1	-12	-112	-12	2-3 X 0
+2	+12	-12	+37	6-6 X 0
+2	+12	+12	+12	6-6 X 0
+1	-12	-12	-12	2-2 X 0
BASE	-62	-12	-37	1-1 X 0
-1	-112	-62	-112	2-2 X 50
-2	-162	-162	-187	4-4 X 50
-3	-237	-212	-287	7-7 X 50
-3	-262	-212	-312	7-5 X 50
-2	-237	-212	-237	3-2 X 50
-1	-162	-137	-162	φ - φ
BASE	-57	-57	-62	2-2 X 0

S	20/80	20/40	20/20	Phoria	%
-3	-2.66	-1.62	-2.50	5 1/2 X 50	3/4
-2	-1.50	-1.37	-1.12	2 3/4 X 50	3/4
-1	-.87	-.50	-.87	1 X 0	2
BASE	-.25	-.25	PL	1 X 0	1 1/2
+1	+37	-12	+37	2 1/2 X 0	3/4
+2	+62	+50	+75	5 1/4 X 0	2 3/4



Blue = 20/80  
 Red = 20/40  
 Green = 20/20



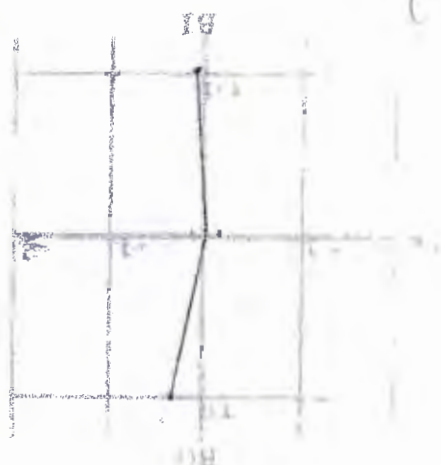


BASE	PL	PL	PL	PL	PL
-1.50	-1.50	-1.50	-1.50	-1.50	-1.50
+1.12	+1.12	+1.12	+1.12	+1.12	+1.12
+1.25	+1.25	+1.25	+1.25	+1.25	+1.25
+1.50	+1.50	+1.50	+1.50	+1.50	+1.50
+1.75	+1.75	+1.75	+1.75	+1.75	+1.75
+2.00	+2.00	+2.00	+2.00	+2.00	+2.00
+2.25	+2.25	+2.25	+2.25	+2.25	+2.25
+2.50	+2.50	+2.50	+2.50	+2.50	+2.50
+2.75	+2.75	+2.75	+2.75	+2.75	+2.75
+3.00	+3.00	+3.00	+3.00	+3.00	+3.00

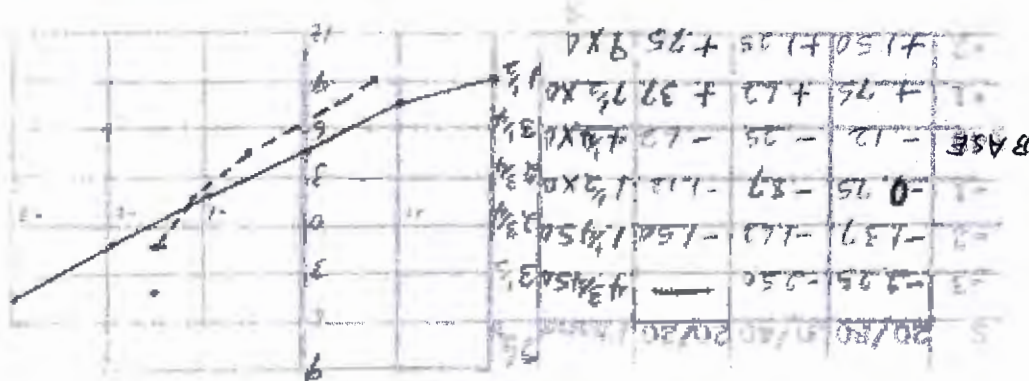
BASE	BASE	BASE	BASE	BASE	BASE
+0.25	+0.25	+0.25	+0.25	+0.25	+0.25
+0.50	+0.50	+0.50	+0.50	+0.50	+0.50
+0.75	+0.75	+0.75	+0.75	+0.75	+0.75
+1.00	+1.00	+1.00	+1.00	+1.00	+1.00
+1.25	+1.25	+1.25	+1.25	+1.25	+1.25
+1.50	+1.50	+1.50	+1.50	+1.50	+1.50
+1.75	+1.75	+1.75	+1.75	+1.75	+1.75
+2.00	+2.00	+2.00	+2.00	+2.00	+2.00
+2.25	+2.25	+2.25	+2.25	+2.25	+2.25
+2.50	+2.50	+2.50	+2.50	+2.50	+2.50
+2.75	+2.75	+2.75	+2.75	+2.75	+2.75
+3.00	+3.00	+3.00	+3.00	+3.00	+3.00
+3.25	+3.25	+3.25	+3.25	+3.25	+3.25
+3.50	+3.50	+3.50	+3.50	+3.50	+3.50

BASE	PL	PL	PL	PL	PL	PL
+0.25	+0.25	+0.25	+0.25	+0.25	+0.25	+0.25
+0.50	+0.50	+0.50	+0.50	+0.50	+0.50	+0.50
+0.75	+0.75	+0.75	+0.75	+0.75	+0.75	+0.75
+1.00	+1.00	+1.00	+1.00	+1.00	+1.00	+1.00
+1.25	+1.25	+1.25	+1.25	+1.25	+1.25	+1.25
+1.50	+1.50	+1.50	+1.50	+1.50	+1.50	+1.50
+1.75	+1.75	+1.75	+1.75	+1.75	+1.75	+1.75
+2.00	+2.00	+2.00	+2.00	+2.00	+2.00	+2.00
+2.25	+2.25	+2.25	+2.25	+2.25	+2.25	+2.25
+2.50	+2.50	+2.50	+2.50	+2.50	+2.50	+2.50
+2.75	+2.75	+2.75	+2.75	+2.75	+2.75	+2.75
+3.00	+3.00	+3.00	+3.00	+3.00	+3.00	+3.00
+3.25	+3.25	+3.25	+3.25	+3.25	+3.25	+3.25
+3.50	+3.50	+3.50	+3.50	+3.50	+3.50	+3.50
+3.75	+3.75	+3.75	+3.75	+3.75	+3.75	+3.75
+4.00	+4.00	+4.00	+4.00	+4.00	+4.00	+4.00
+4.25	+4.25	+4.25	+4.25	+4.25	+4.25	+4.25
+4.50	+4.50	+4.50	+4.50	+4.50	+4.50	+4.50
+4.75	+4.75	+4.75	+4.75	+4.75	+4.75	+4.75
+5.00	+5.00	+5.00	+5.00	+5.00	+5.00	+5.00

20/80 - 10/50  
 20/40  
 20/50

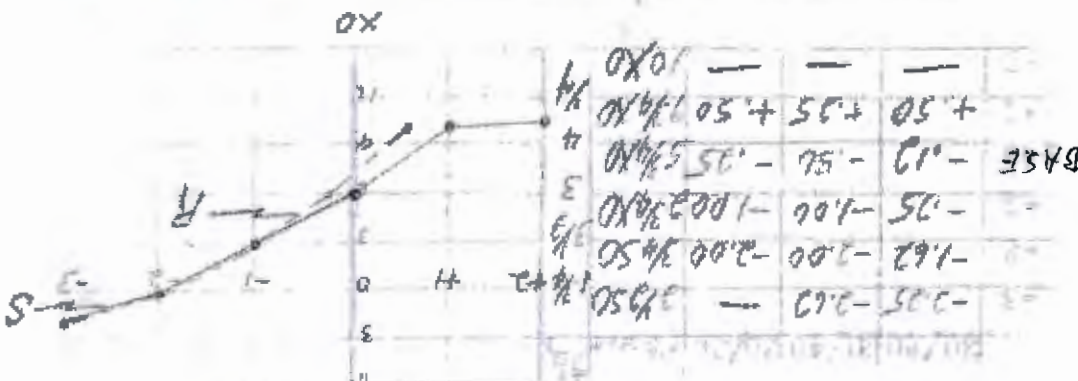
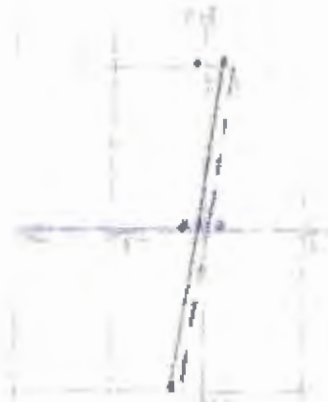
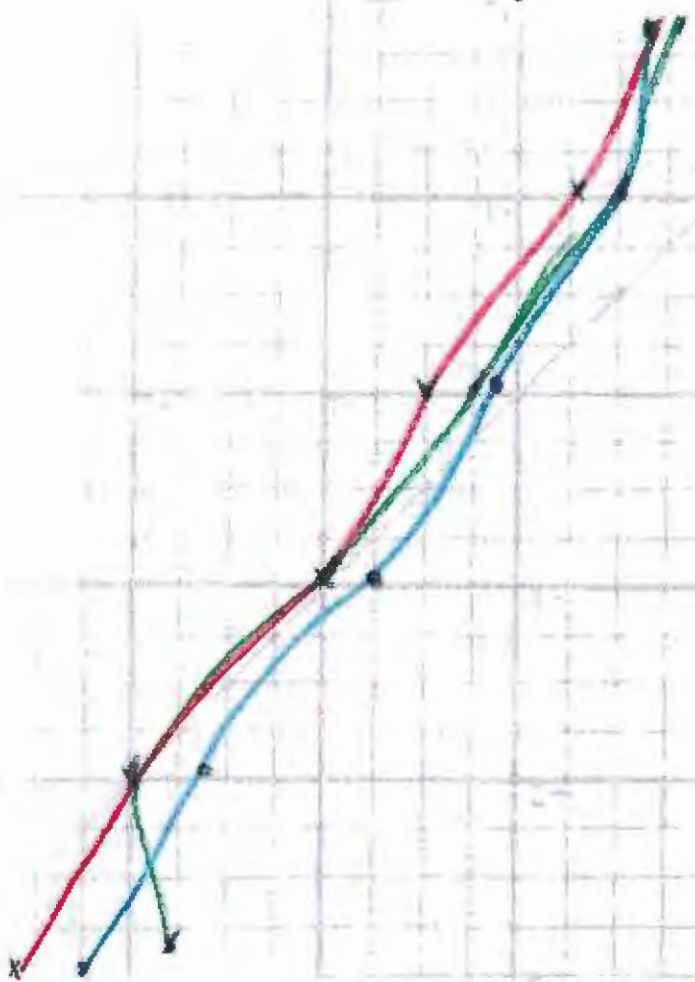


1.50 - 1.25  
 1.25 - 1.12  
 1.12 - 1.00  
 1.00 - 0.87  
 0.87 - 0.75  
 0.75 - 0.62  
 0.62 - 0.50  
 0.50 - 0.37  
 0.37 - 0.25  
 0.25 - 0.12  
 0.12 - 0.00  
 0.00 - 0.12  
 0.12 - 0.25  
 0.25 - 0.37  
 0.37 - 0.50  
 0.50 - 0.62  
 0.62 - 0.75  
 0.75 - 0.87  
 0.87 - 1.00  
 1.00 - 1.12  
 1.12 - 1.25  
 1.25 - 1.50



BASE	1.2	1.12	1.04	0.96	0.88	0.80	0.72	0.64	0.56	0.48	0.40	0.32	0.24	0.16	0.08	0.00
BASE	0.37	0.50	0.62	0.75	0.87	1.00	1.12	1.25	1.37	1.50	1.62	1.75	1.87	2.00	2.12	2.25
BASE	0.12	0.25	0.37	0.50	0.62	0.75	0.87	1.00	1.12	1.25	1.37	1.50	1.62	1.75	1.87	2.00

3-5.62  
 3-4.00  
 3-3.37  
 3-2.75  
 3-2.12  
 3-1.50  
 3-0.87  
 3-0.25  
 3-0.00



BASE	-3.62	6,8 X0
BASE	-2.37	11,1 X0
BASE	-2.12	13,1 X0
BASE	-1.87	13,1 X0
BASE	-1.62	13,1 X0
BASE	-1.37	8,5 X0
BASE	-1.12	3,0, 150
BASE	-0.87	2,5, 50
BASE	-0.62	2,3, 50
BASE	-0.37	1,4, 50
BASE	-0.12	4,4 X0

- 0.25
- 3.00
- 3.12
- 3.87
- 2.12
- 2.87
- 2.62
- 3.37
- 2.50
- 3.25
- + - 2.12
- 2.87
- 2.12
- 1.75
- 2.50
- 1.2 X 175
- 2.5 X 35
- 3.12 - 1.0 X 160
- 3.87 - 5.0 X 165
- 3/5/63
- 66
- N.L. Apr 23