

YEAR	AVERAGE GLOBAL TEMP. (°F)
1880	58.1°F
1900	58.6°F
1920	58.8°F
1940	59.2°F
1960	59.4°F
1980	59.7°F

16. Use the grids in your Student Response Booklet to answer this question. On both grids, put Year along the horizontal axis.
- Suppose you were creating a graph to go with an article claiming that the average global temperature is rising at an alarming rate. Graph the data so it appears that the average global temperature is rising rapidly.
 - Suppose you were creating a graph to go with an article claiming that the average global temperature is not rising quickly. Graph the data so it appears that the average global temperature is rising very slowly.

CONSTRUCTED-RESPONSE SCORING GUIDE

Score	Description
4	Student demonstrates thorough understanding of graphic presentation of data by accurately creating two graphs that each represent a set of data differently.
3	Student demonstrates general understanding of graphic presentation of data by creating two graphs that each represent a set of data differently with only minor errors or omissions.
2	Student demonstrates basic ability to create graphs that represent data.
1	Student demonstrates minimal ability to create graphs that represent data.
0	Response is totally incorrect or correct only in ways irrelevant to what is being measured.
Blank	No response.

Training Notes for Constructed-Response #16

Score	Description
4	Student creates 2 graphs that have axes labeled, data graphed correctly, and plotted data in 1 st graph has a much greater slope than the plotted data in the 2 nd graph. For the slope on the 1 st graph to be greater EITHER, on the 1 st graph, the distance between any two temperatures (58° and 59°, for example) is greater than the distance between the same two temperatures on the 2 nd graph OR, on the 1 st graph, the distance between any two years (1880 and 1900, for example) is less than the distance between the same two years on the 2 nd graph.
3	Student creates 2 graphs that have axes labeled and appropriate differences in scale shown, but some of the data is not properly graphed. OR Student creates 2 graphs with appropriate differences in scale shown. There may be minor errors or omissions.
2	Student graphs the data on one graph that shows appropriate scale. There may be minor errors. OR Student creates 2 graphs but does not have enough difference in scale to give the appearance of different rates of change. There may be minor errors.
1	Student response shows minimal understanding by showing some correct strategy in making a graph.
0	Response is totally incorrect or irrelevant.
Blank	No response.

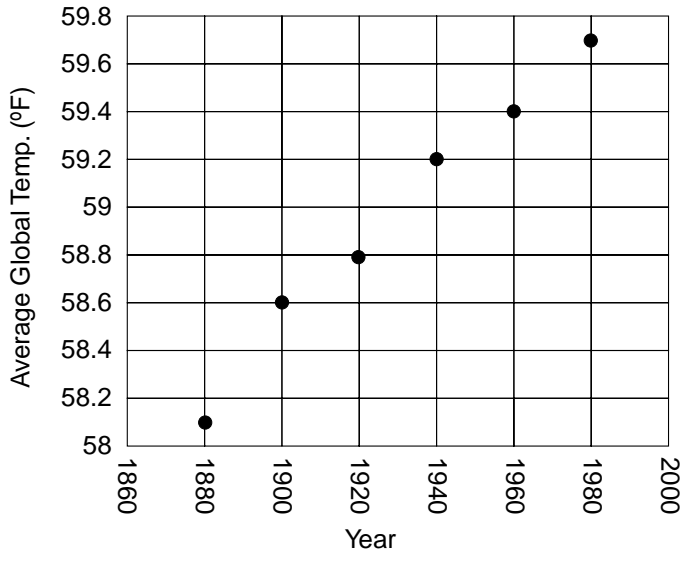
Scoring information:

- The scale does NOT have to (nor SHOULD it) start at (0,0). The key idea here is to change one of the scales enough to show differences in rate changes.
- Do not deduct points if student does not connect the dots.
- Deduct 1 point from the score total if students put the years along the y-axis.

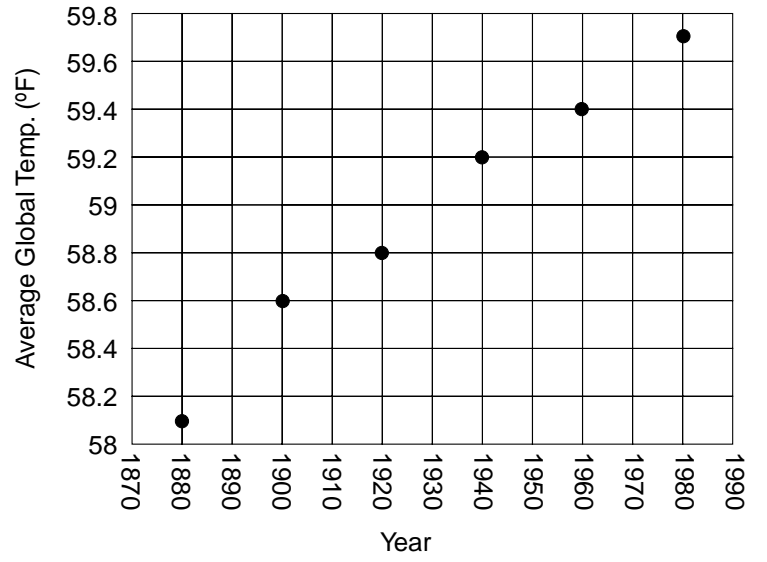
Minor errors:

- Word labels missing.
- Some scale increments missing or mislabeled.
- Some points not placed correctly.

Graph A



Graph B

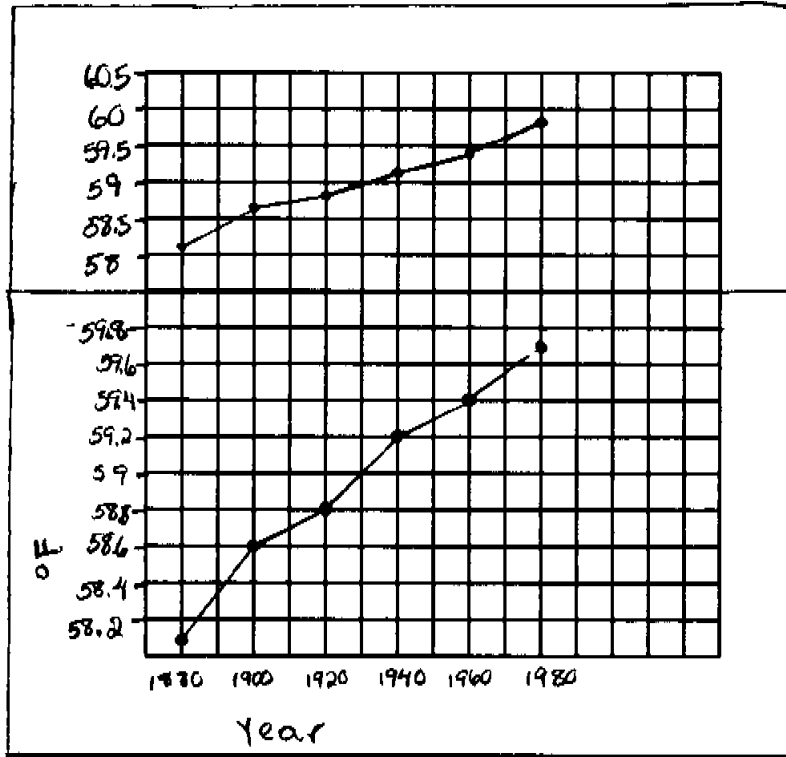


Student Responses for Constructed-Response #16 for Score Points 4, 3, 2, and 1

16.

4

B

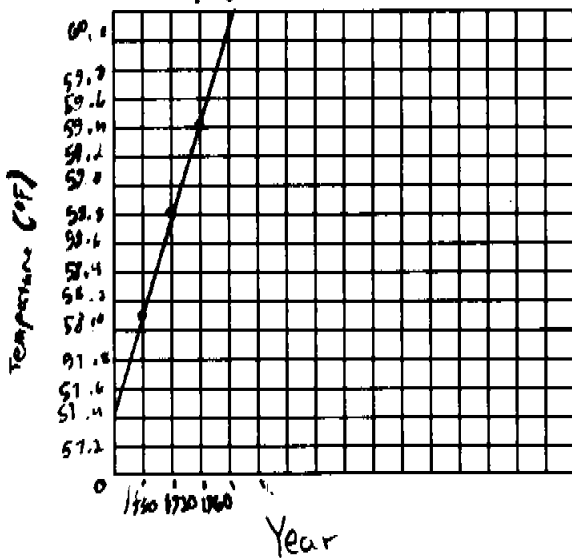


A

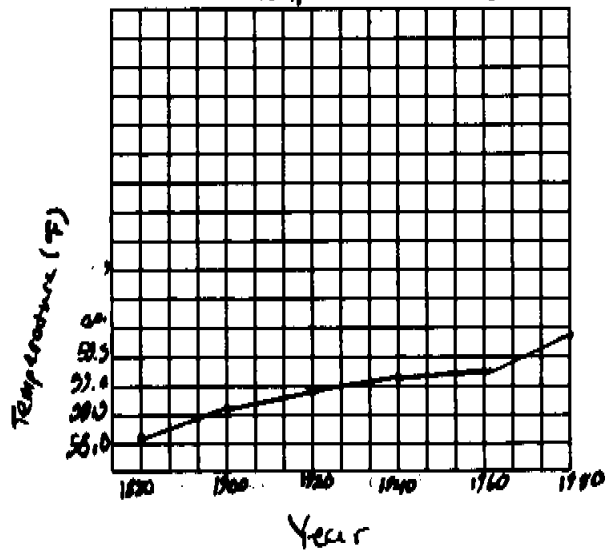
16.

4

How rapidly is the Average Global Temperature Increasing?

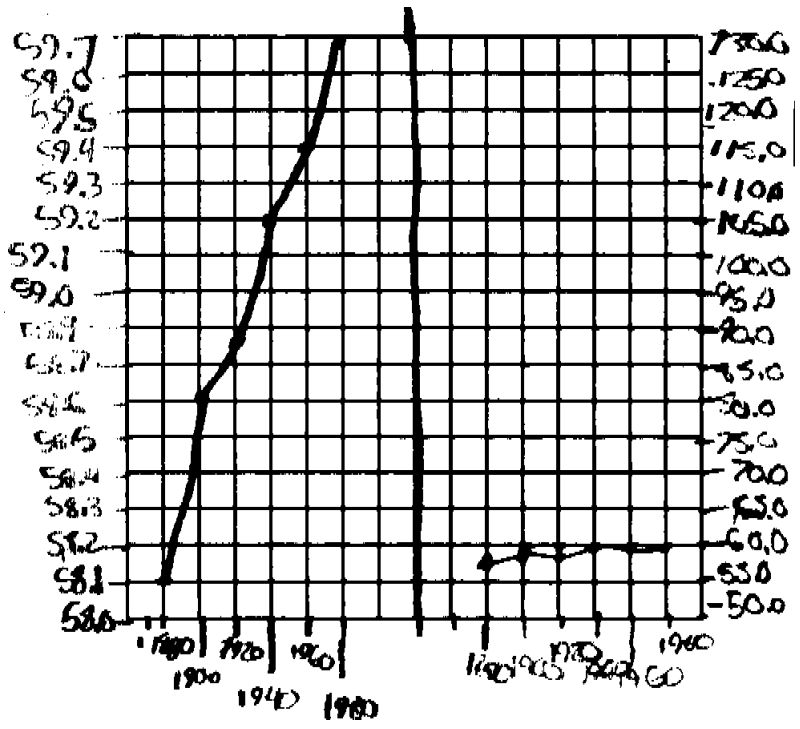


How slowly is the Average Global Temperature Increasing?



16.

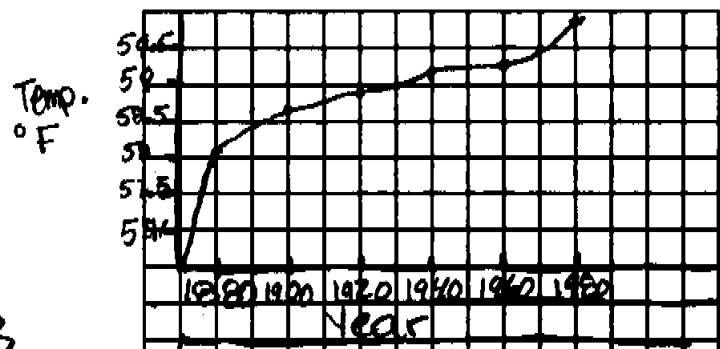
3



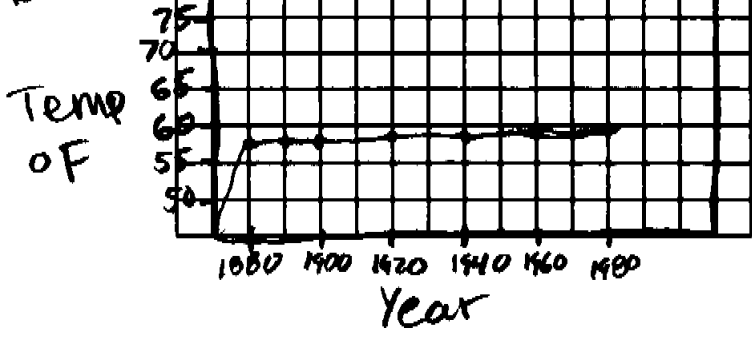
16.

3

a.



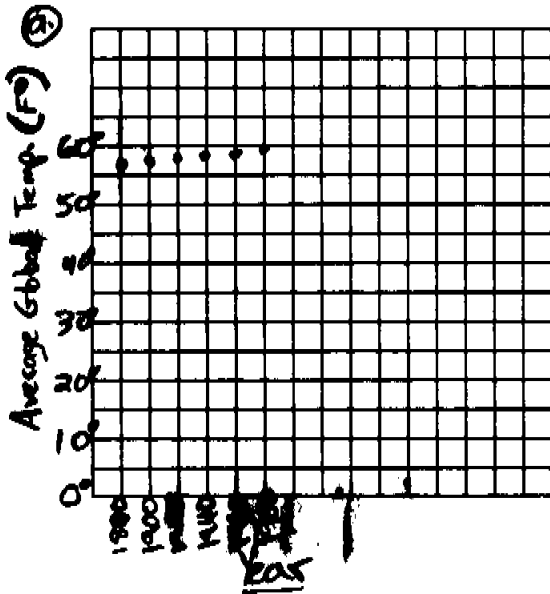
B.



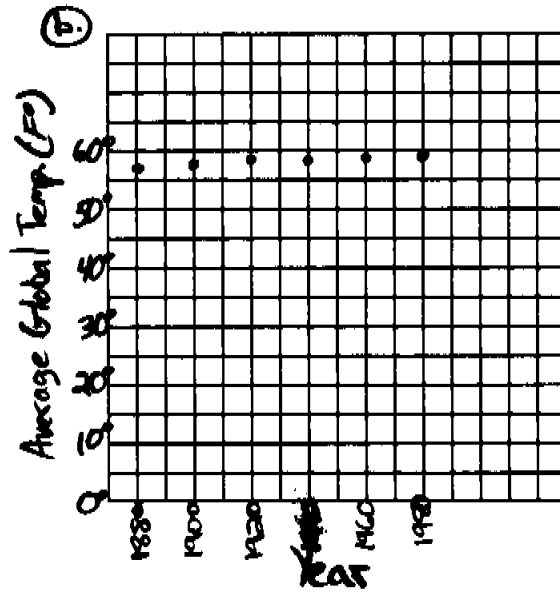
16.

2

Average Global Temp.

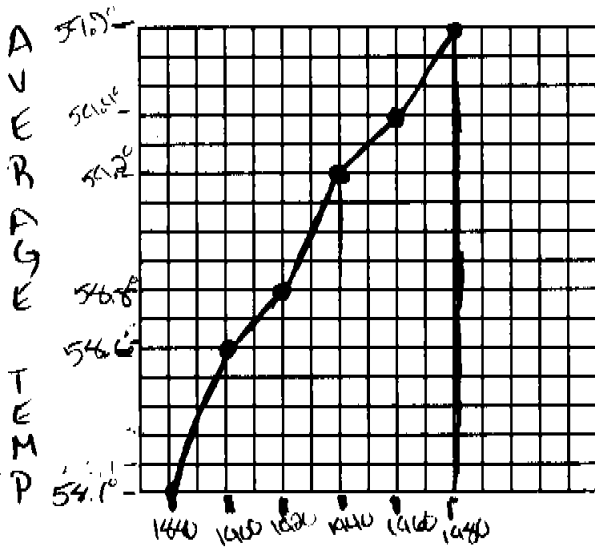


Average Global Temp.

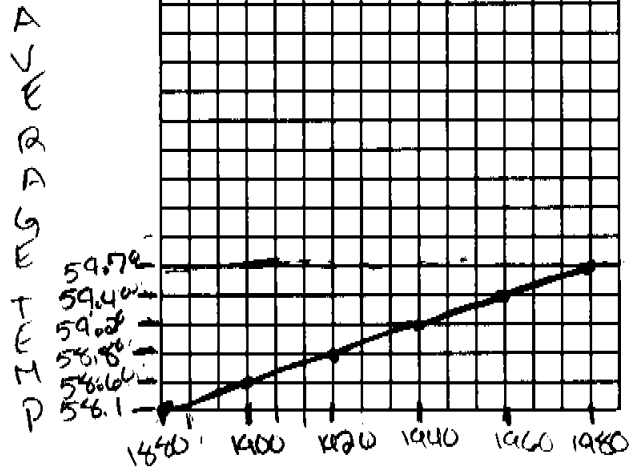


16.

2



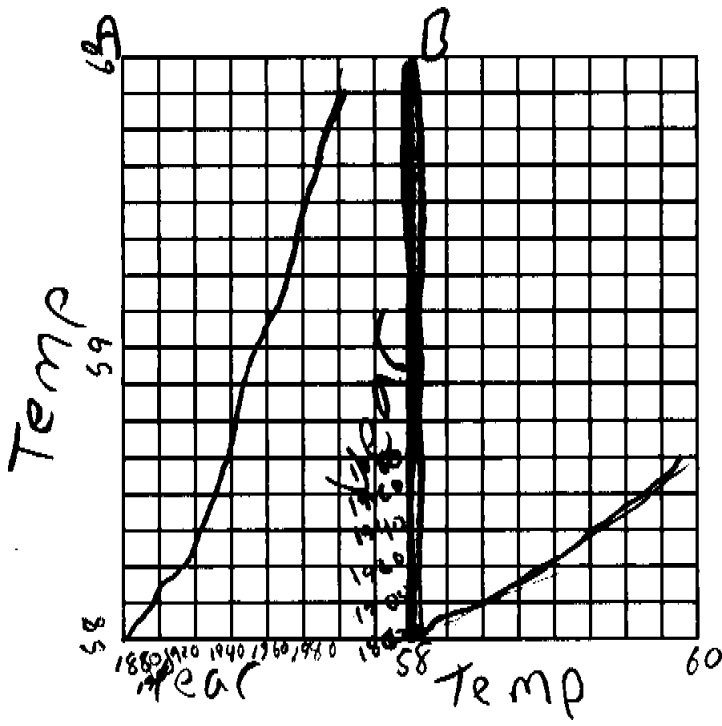
year
a lot



year
not a lot

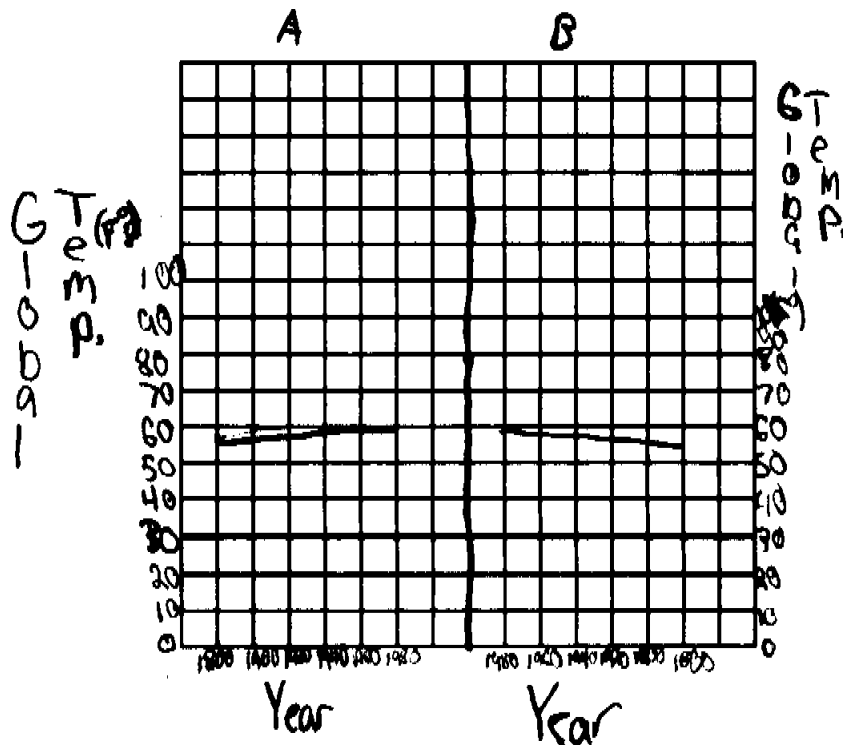
16.

1



16.

1



41. The computer club at school designed a Web site to provide information to students about school activities, events, schedules, assignments, etc. The club decided to keep track of the number of students who accessed the Web site each week. The results are shown in the table below.

Week	Number of students accessing the Web site
1	21
2	75
3	104
4	152
6	204
7	240
10	290

- On the grid in your Student Response Booklet, plot the data. Be sure to indicate your scale and use appropriate labels. Notice that the data from Weeks 5, 8, and 9 are missing.
- The club did not record the actual number of students who accessed the Web site during Week 5. Week 5 was typical of the data recorded. Estimate the number of students who accessed the site during Week 5. Explain how you found your answer.
- If the trend shown in your graph continues, what is the most likely number of students who will access the site during Week 13? Explain how you found your answer.

CONSTRUCTED-RESPONSE SCORING GUIDE

Score	Description
4	The student demonstrates a thorough understanding of the use of tables and graphs to represent real-life situations by correctly graphing a set of data and using the graph to interpolate and extrapolate information.
3	The student demonstrates an understanding of the use of tables and graphs to represent real-life situations by correctly graphing a set of data and using the graph to interpolate and extrapolate information, with only minor errors.
2	The student shows some understanding of graphing data or of interpolating or extrapolating data.
1	The student shows minimal understanding of graphing or interpreting data.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes for Constructed-Response #41

Score	Description
4	4 points
3	3 points
2	2 points
1	1 point OR Student shows minimal understanding of making and/or interpreting graphs.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Part a. 2 points if the student correctly graphs the data, has correct scale, and labels axes correctly. Both horizontal and vertical scales must be correct no matter what type of graph is made (including bar graphs.).

OR

1 point if the student graphed at least 4 points correctly with scale that may contain a minor error, but failed to label axes.

Part b 1 point for an explanation that yields an estimate of 175 ± 10

Part c 1 point for an explanation that yields a reasonable estimate.

If student shows an extension of the graph and gives a reasonable estimate but there is no explanation, award 1 point unless it is a score 4 paper.

Some examples of acceptable answers follow.

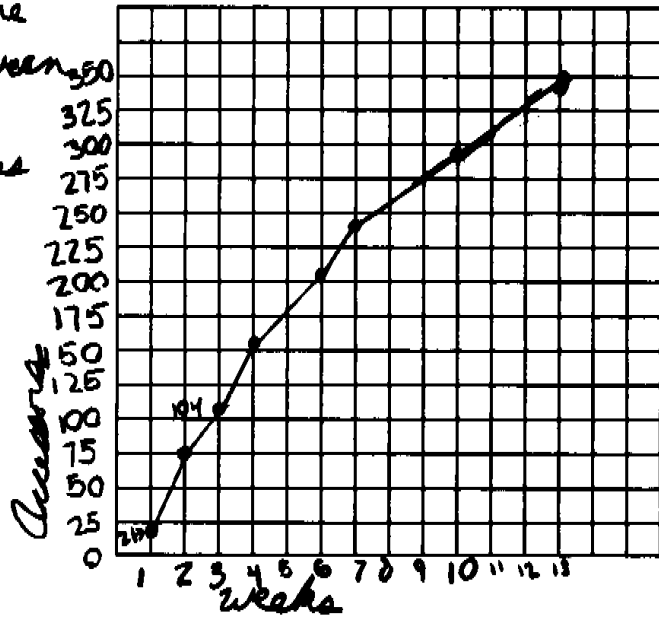
1. I drew a best fit line and read the number of students at Week 13. (Using this method, an estimate in the range of 400 ± 10 is acceptable.)
2. I continued the curve to Week 13 and read off the number of students. (Using this method, student's estimate must be reasonable, ± 10 of the value on the student's graph.)
3. Week 13 is 3 weeks later than Week 10 and Week 10 is 3 weeks from Week 7.
 $290 - 240 = 50$, and $290 + 50 = 340$. (Using this method, an estimate of 340 is acceptable.)

41.

4

b. I wrote week 5 on a ~~column~~ ^{label} on the graph to estimate how many assessors there were that week. My estimate is 175 because that was the assessor line between 4 and 6 weeks. My estimate is 175 assessors in week 5.

c. I estimate is 350 assessors in week 13 because when the line stays and the level of ascent its at now it reaches 350 by week 13.

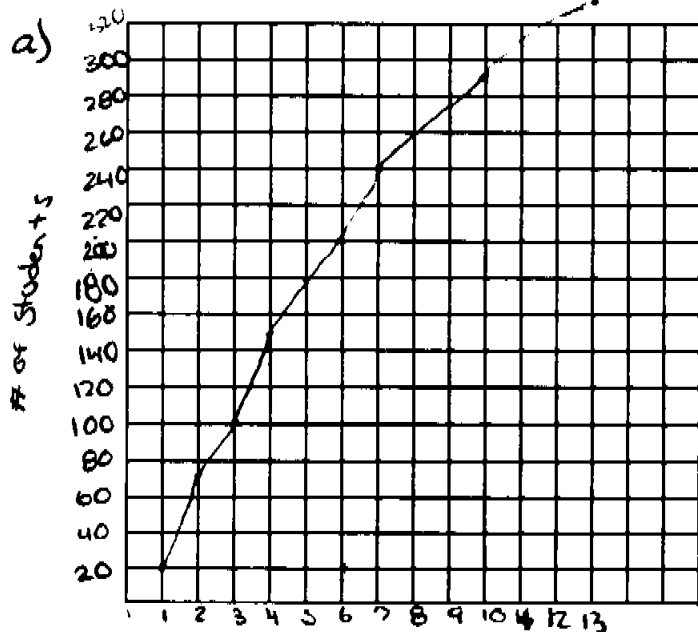


41.

4

b) I estimate around 180 kids used it because looking at the growth rates of the others, 180 fits in very well.

c) Around 330 because if the growth rate doesn't change and continues this way by week 13, 330 is a good week estimate!



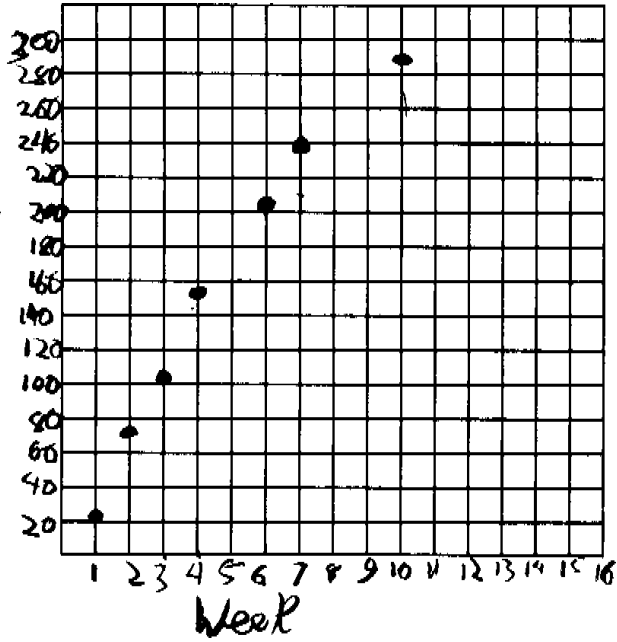
41.

3

b. 177 - the pattern is +25, +50, +25

c. 390 I used the pattern

of
students

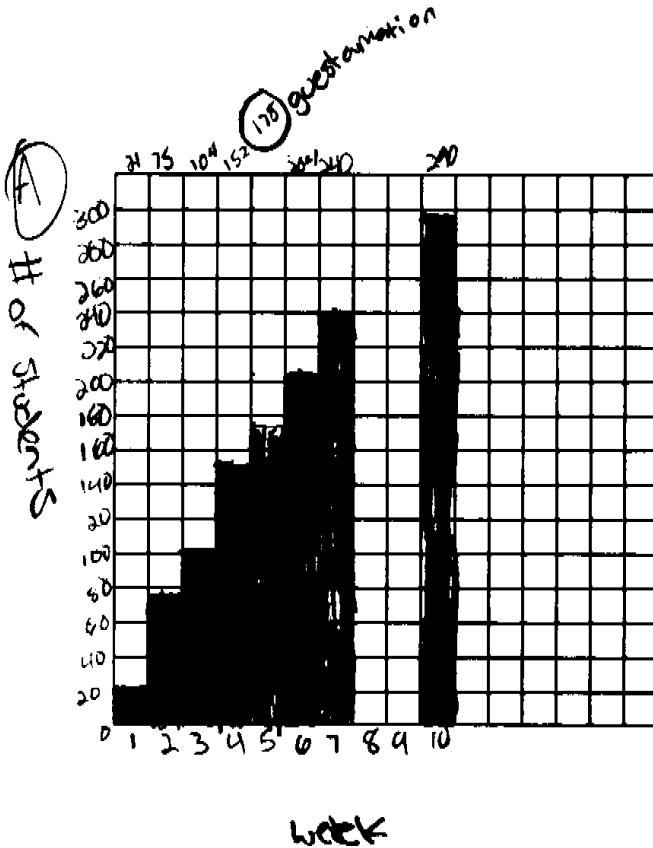


41.

3

(c) 360 question

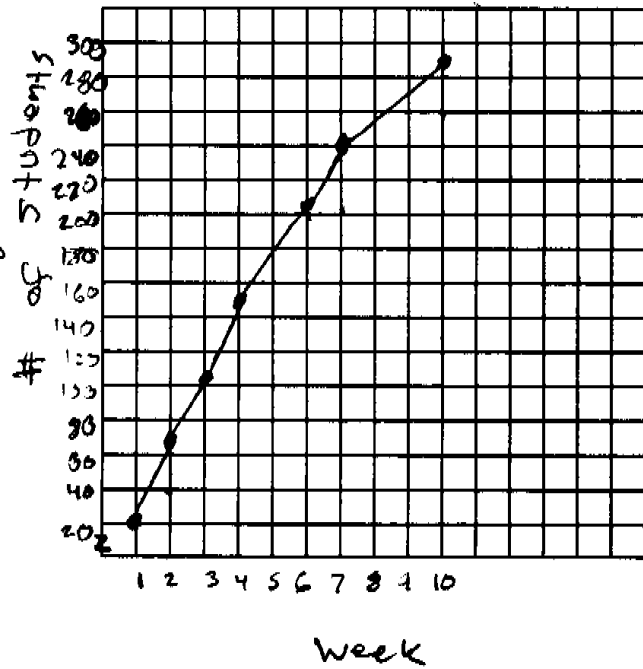
(b) 178 I guess question asked



41.

2

A



B About 150 kids. I found this by following the graph. I found week 5 and then went up until I hit the line.

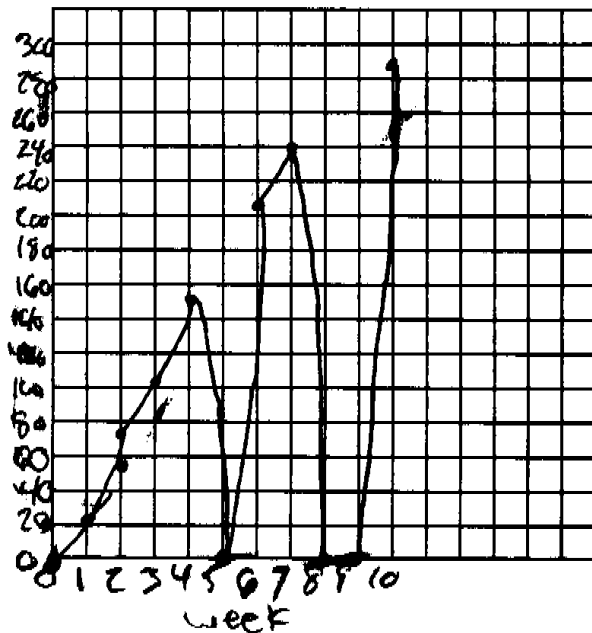
C About 389 kids. I found the slope then multiplied by 13.

41.

2

178 because I added 152 with 204 and got 356 then I divided it by 2.

I'm guessing 390 because they are increasing by like 40 and 50's

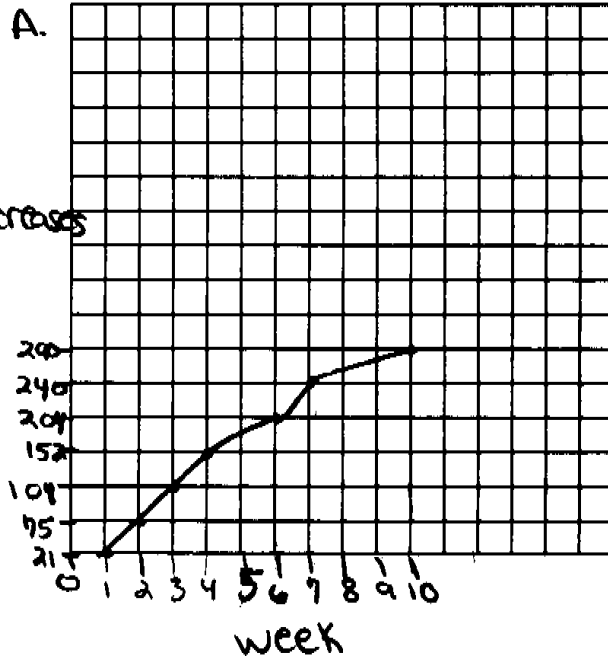


41.

1

B. 178. I got this by finding the number half inbetween 4 and 6.

C. 440 students. It increases on average of 50 students each week. I did $290 + 50 + 50 + 50$ to get 440.



41.

1

B I took all the data added it up and divided it by 7, I got 155. Since that is the average I thought week 5 might be around there

C 394. I got this because I added weeks 10 with week 3

