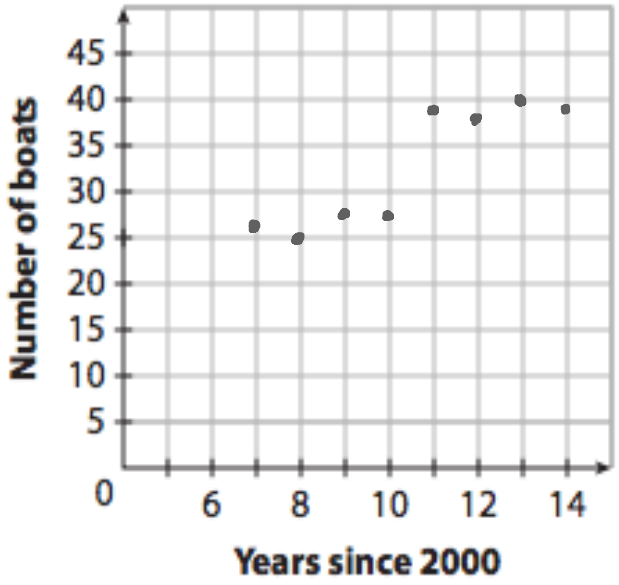
Created by Max Robinson (student last year)

Warmup 12/(# of digits in $\pi - \infty + 10$)

The table below shows the number of boats in a marina during the years 2007 to 2014.

Years Since 2000	7	8	9	10	11	12	13	14
Number of Boats	26	25	27	27	39	38	40	39

a. Make a scatterplot by using the data in the table as the coordinates of points on the graph. Use the calendar year as the x-value and the number of boats as the y-value.



b. Determine whether there is a positive correlation, negative correlation, or no correlation between the number of boats in the marina and the year. Why might this type of correlation exist for this data?

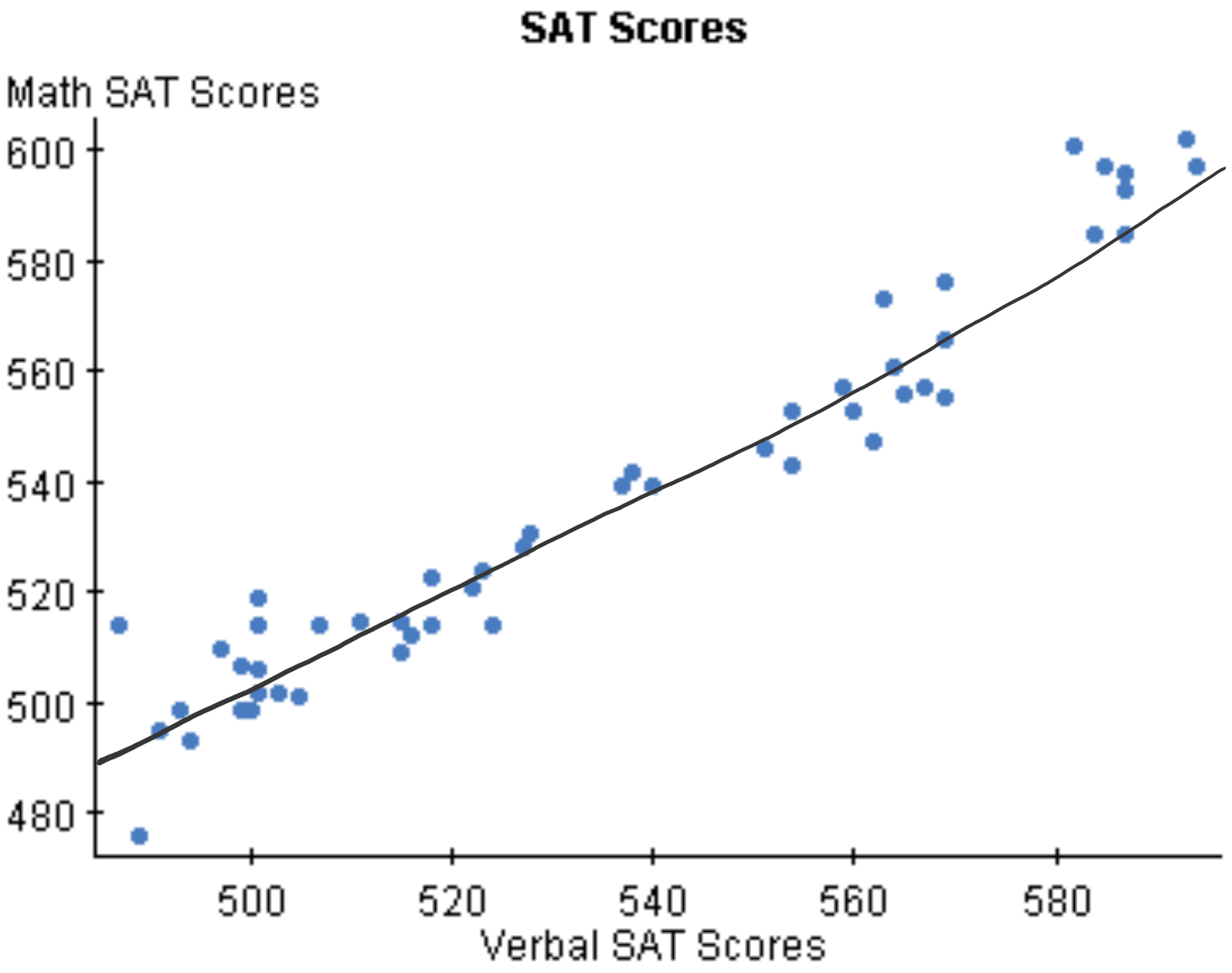
*****GET A YELLOW CALCULATOR (or at least, share one with the person next to you)*****

Update:

- Review Packet will be due **MONDAY.**

- However, I would like you to try to have it finished (or at least, everything you understand) by **FRIDAY.**

Check Homework


SAT Scores
Math SAT Scores
600
580
560
540
520
500
480
500
520
540
560
580
Verbal SAT Scores

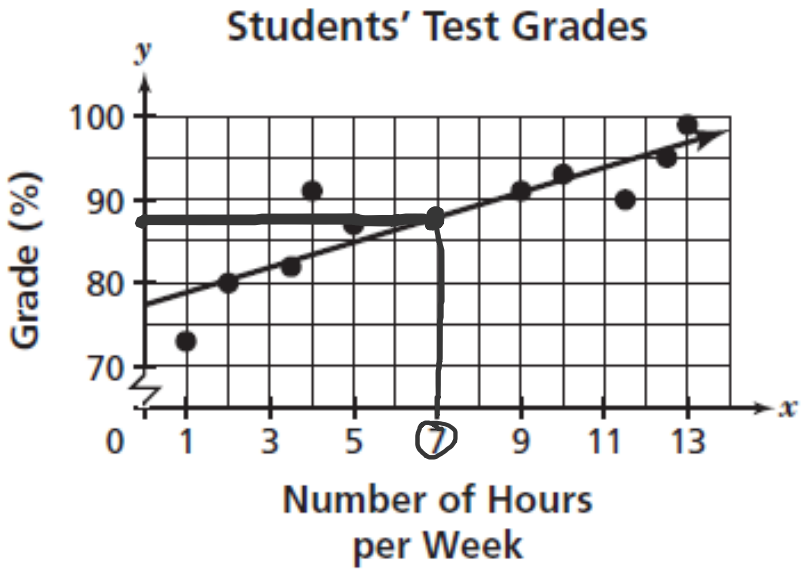
Line of Best Fit

- A line that shows the overall trend of the data
- Should have approximately the same number of dots above and below it

Line of Best Fit Application

- http://illuminations.nctm.org/Activity.aspx?id=4186

The scatterplot below shows the relationship between the test grades for 10 students and the numbers of hours they studied per week.



Based on the scatterplot, which is the best prediction of the test grade for a student who studied for 7 hours?

F 98%

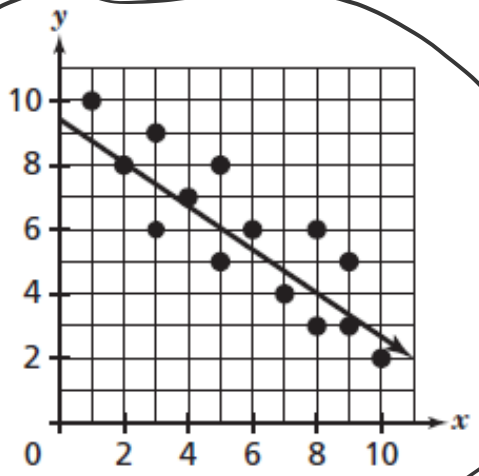
G 91%

H 88%

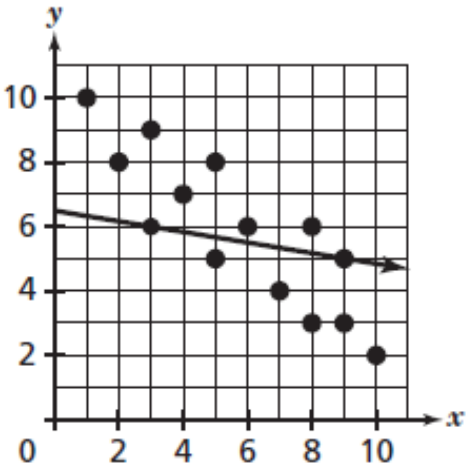
J 82%

Which graph shows the most accurate line of best fit for the given data?

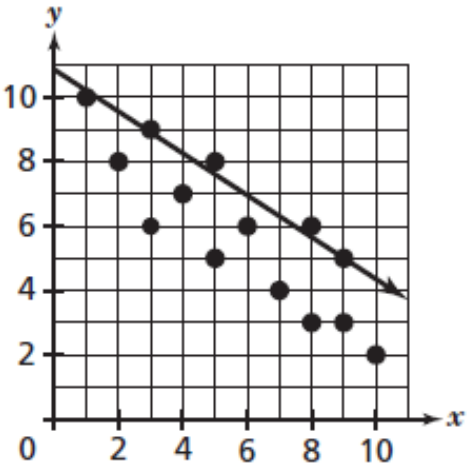
F



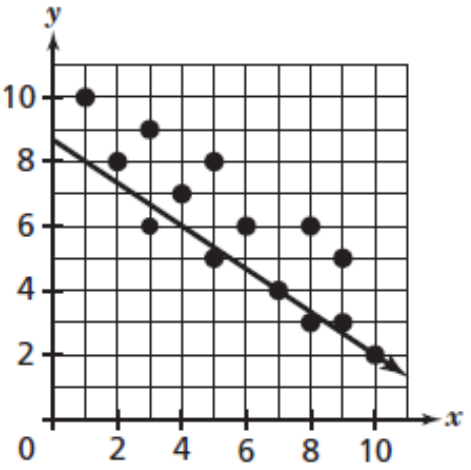
H



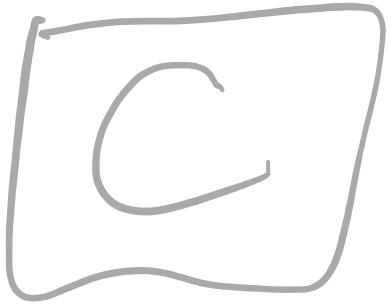
G



J



Which of these is the most appropriate line of best fit?

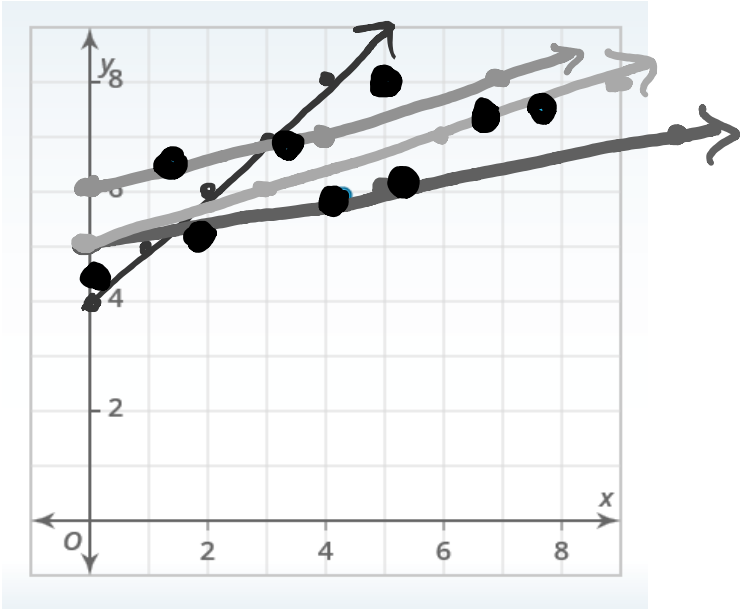


A) $y = x + 4$

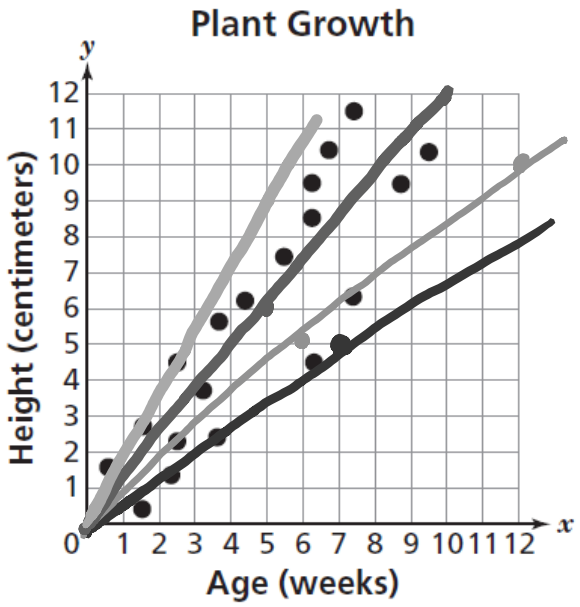
B) $y = \frac{1}{5}x + 5$

C) $y = \frac{1}{3}x + 5$

D) $y = \frac{1}{4}x + 6$



The ages and heights of a number of different plants of the same species are recorded on the scatterplot.



Which equation represents a line of best fit for this scatterplot?

F $y = \frac{5}{7}x$

G $y = \frac{5}{6}x$

H $y = \frac{6}{5}x$

J $y = \frac{9}{5}x$

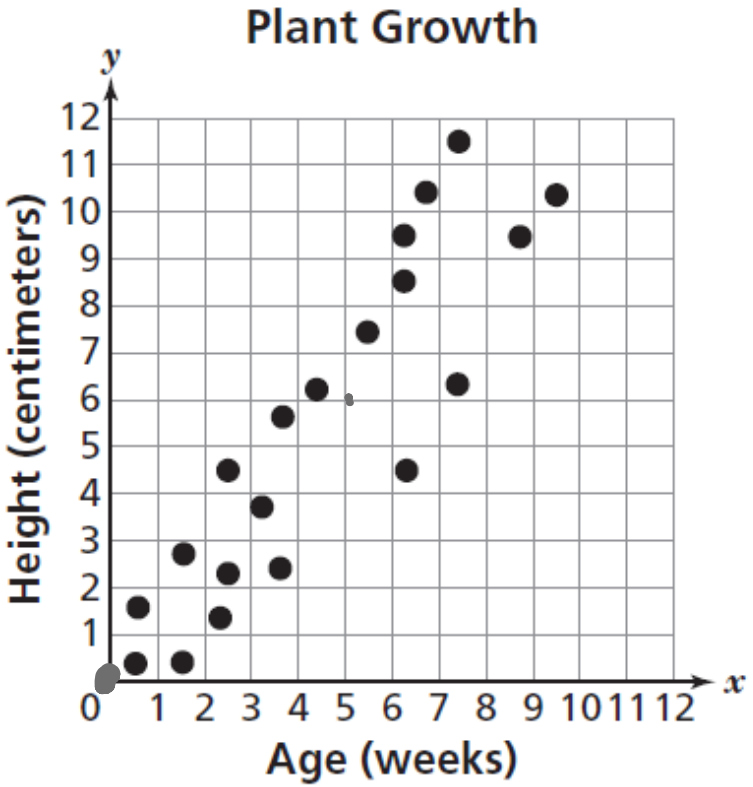
H

F $y = \frac{5}{7}x$

G $y = \frac{5}{6}x$

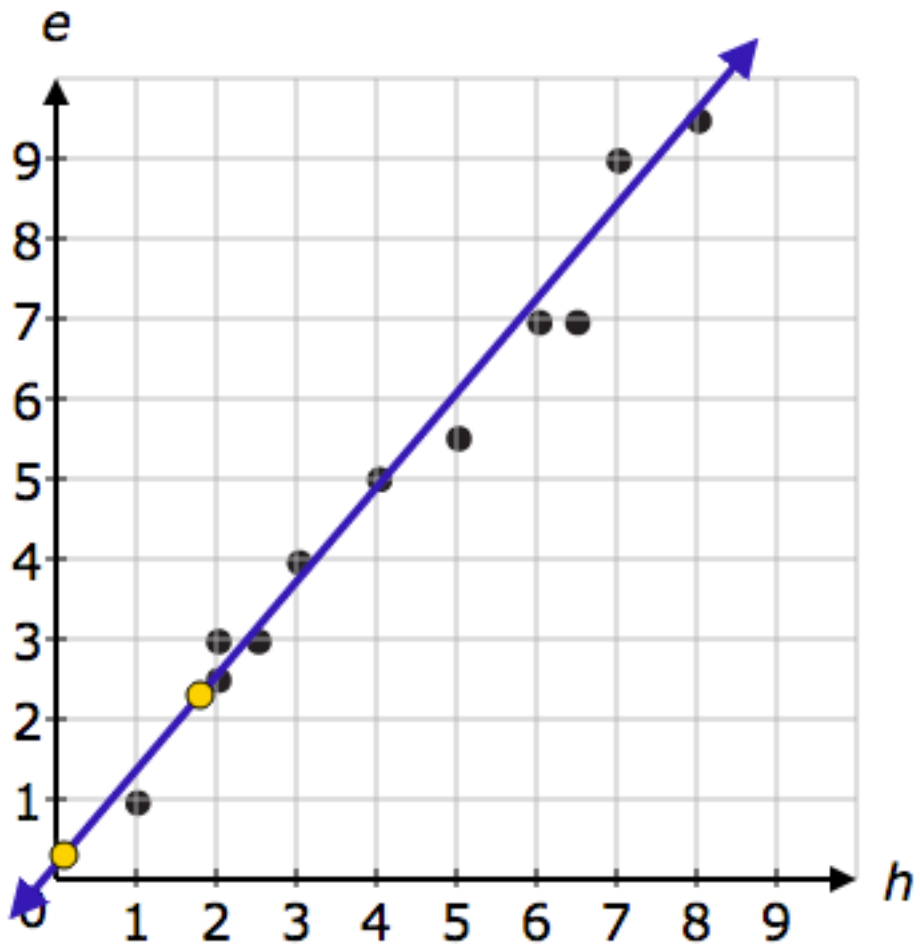
H $y = \frac{6}{5}x$

J $y = \frac{9}{5}x$



The scatter plot shows the number of eagles, *e*, observed during *h* hours of observations.

Use the grid to graph the line of best fit.



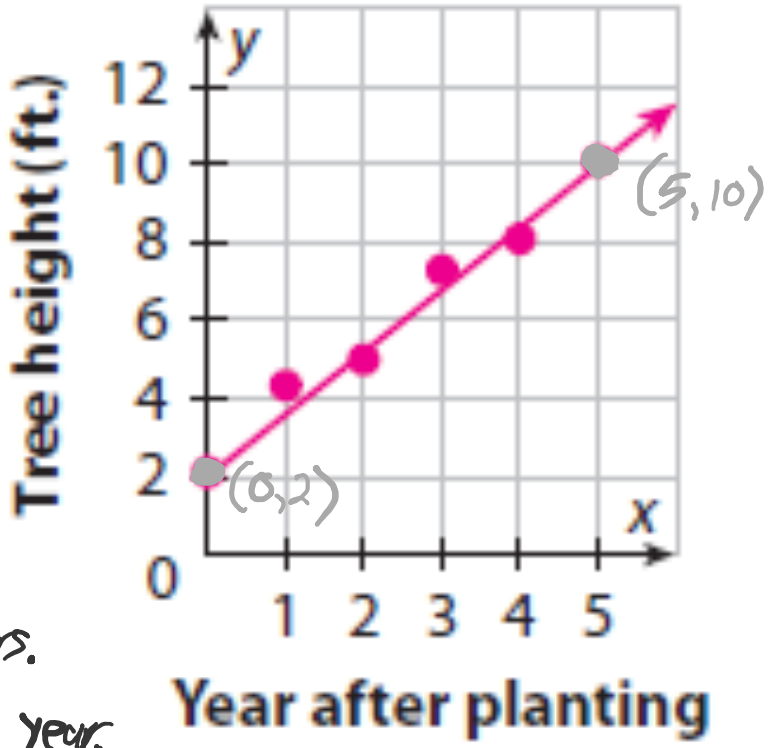
a) Write an equation of the line of best fit.

$m = \frac{10-2}{5-0} = \frac{8}{5}$ or 1.6

$y = \frac{8}{5}x + 2$

or

$y = 1.6x + 2$



b) Explain what the slope represents.

The trees grow ABOUT 8 feet every 5 years.

OR The trees grow ABOUT 1.6 feet per year.

c) Explain what the y-intercept represents.

The original height is 2 feet.

City	Latitude	Average Temperature (°C)
Barrow, Alaska	71.2°N	−12.7
Yakutsk, Russia	62.1°N	−10.1
London, England	51.3°N	10.4
Chicago, Illinois	41.9°N	10.3
San Francisco, California	37.5°N	13.8
Yuma, Arizona	32.7°N	22.8
Tindouf, Algeria	27.7°N	22.8
Dakar, Senegal	14.0°N	24.5
Mangalore, India	12.5°N	27.1

Estimate the average temperature in Vancouver, Canada at 49.1°N.

The equation for the line of best fit is $y \approx -0.693x + 39.11$.

Graph the line of best fit with the data points in the scatter plot.

Use the TRACE function to find the approximate average temperature in degrees Celsius for a latitude of 49.1°N.

The average temperature in Vancouver should be around 5°C.

City	Latitude	Average Temperature (°F)
Fairbanks, Alaska	64.5°N	30
Moscow, Russia	55.5°N	39
Ghent, Belgium	51.0°N	46
Kiev, Ukraine	50.3°N	49
Prague, Czech Republic	50.0°N	50
Winnipeg, Manitobia	49.5°N	52
Luxembourg	49.4°N	53
Vienna, Austria	48.1°N	56
Bern, Switzerland	46.6°N	59

Estimate the average temperature in degrees Fahrenheit in Bath, England, at 51.4°N.

The equation for the line of best fit is $y \approx -$ 1.60 $x +$ 131.05 .

Use the equation to estimate the average temperature in Bath, England at 51.4°N.

$y \approx -$ 1.60 $x +$ 131.05

Homework

- Worksheet