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Warmup 4/$|4 \cdot 3 \cdot 0 + 4 \cdot 3|$

WE ARE STARTING CLASS NOW!

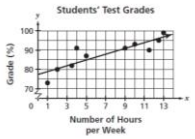
GET A RULER/CALCULATOR

1. Draw what you think a scatter plot comparing **"Size of house"** and **"Cost of electricity bill"** would look like.

2. Draw what you think a scatter plot comparing **"Number of school absences"** and **"Number of homework assignments completed"** would look like.

Volume Quizzes

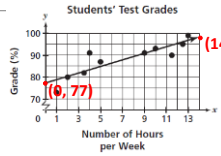
16 The scatterplot below shows the relationship between the test grades for 10 students and the numbers of hours they studied per week.



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%

What is the slope, and what does it mean?



(14, 98)

(0, 77)

Slope $= \frac{98-77}{14-0}$

Slope $= \frac{21}{14}$

Slope is about 1.5.

Your grade would be expected to go up 1.5 percent for each hour spent studying.

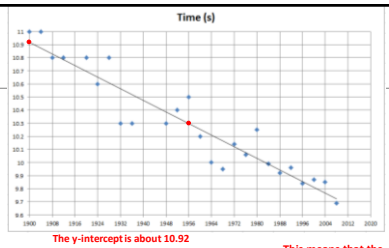
How to find the slope of a line of best fit

1. **Draw two <u>new</u> points on the line of best fit (Preferrably far apart!) and estimate their coordinates.**
2. **Use $\frac{y_2-y_1}{x_2-x_1}$ to find the slope.**

You do NOT use the points from the actual scatter plot. (Unless they are <u>directly</u> on the line!!!)

On your notes page…

- Complete the "Olympic Scatter Plot" – Problems 1 & 2
- **<u>You must use a ruler for the line of best fit</u>**
- Early finishers can move on to 3-6



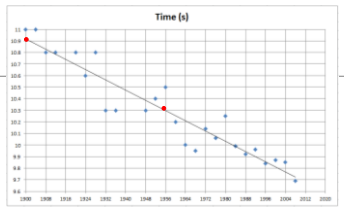
The y-intercept is about 10.92

Another point looks like (56, 10.3)

The slope is $\frac{10.3-10.92}{56-0} = \frac{-0.62}{56} \approx -0.011$

The equation is $y = -0.011x + 10.92$

This means that the winning time decreased by about .011 seconds per year.



The equation is $y = -0.011x + 10.92$

According to this equation, what will the winning time be in the year 2050 (which is 150 years after the start)?

According to this equation, when will the winning time break 9 seconds?

ASSIGNMENT

Creating Lines of Best Fit Practice