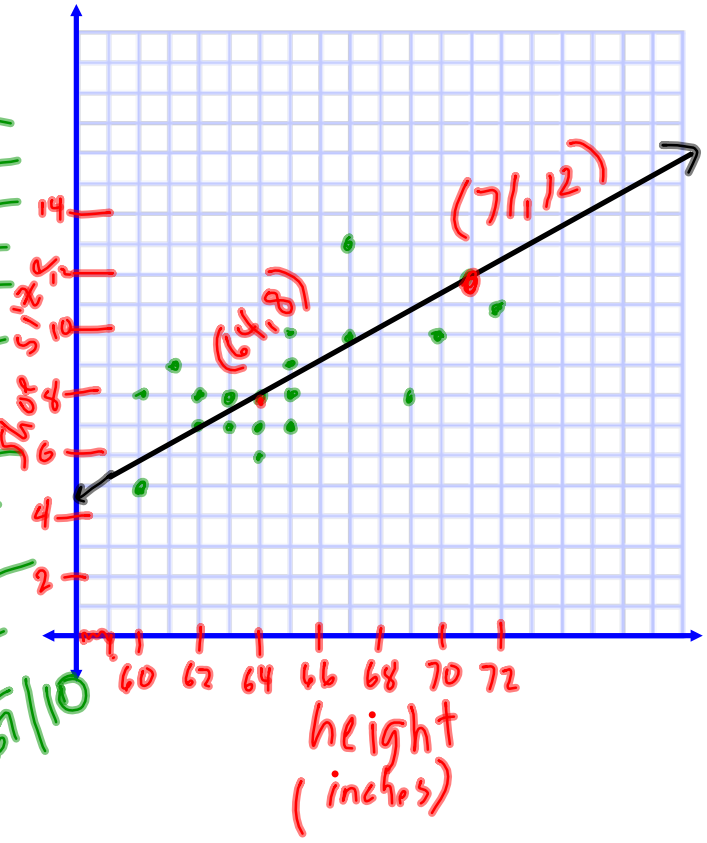
Algebra 7-7 Warm-Up

5x12=60

1. On the board, write your height in inches and shoe size.
2. Create a scatterplot by plotting the data on the graph below.

Height	Shoe size
64"	8
64"	8
67"	10
65"	9
61"	9
62"	8
64"	7
72	11
65	7
69	8
65	10
63	7

H	S
60	5
63	8
62	7
63	8
64	8
65	8
63	8
64	6
59	8
67	13
72	11
71	12
79	10
67	10



Algebra 7-7 Best Fit Lines

How to Create an Equation for a Best Fit Line

1. Plot the data on a coordinate plane.
2. Draw a best fit line.
3. Pick 2 Points **on** that line.
4. Find the Slope by $m = \frac{y_2 - y_1}{x_2 - x_1}$.
5. Write an equation.

Examples

1. Draw a best fit line for the data in the warm-up problem. ✓
2. Write an equation that represents that line.

$(71, 12)$ $(64, 8)$ (x_1, y_1; x_2, y_2)

$m = \frac{8-12}{64-71} = \frac{-4}{-7} =$

$y = \frac{4}{7} \cdot x + -28.57$

$8 = \left(\frac{4}{7}\right)(64) + b$

$8 = 36.57 + b$

$-36.57 \quad -36.57$

$-28.57 = b$

3. Predict what shoe size a 7 ft. (84 in.) tall person would wear.

$y = \frac{4}{7}(84) + -28.57$

$y = 19.4 \approx 19$ shoes size

Assign 7-7
4, 5, 12-19