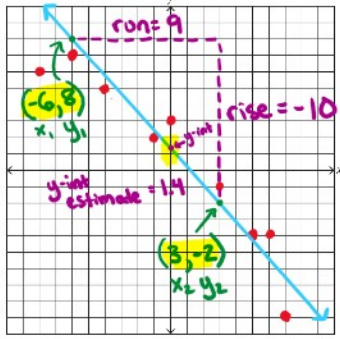


2.7 Line of Best Fit

Wednesday, June 19, 2019 8:49 AM

X	-8	3	7	-1	5	0	6	-4	-6
Y	6	-1	-9	2	-4	3	-4	5	7



$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-2 - 8}{3 - (-6)} = \frac{-10}{9} \text{ rise/run}$$

$$y = -\frac{10}{9}x + b$$

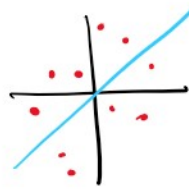
$$-2 = -\frac{10}{9}(3) + b$$

$$-2 = -3.\bar{3} + b$$

$$+3.\bar{3} \quad +3.\bar{3}$$

$$1.\bar{3} = b = 1\frac{1}{3} = \frac{4}{3}$$

- ① Plot given points (scatterplot)
- ② Draw the line of best fit
 - line does not have to go through any of the points
 - line should go through the "middle" of the scatterplot (should have a similar # of points above the line and below the line)



- ③ Write the slope-intercept form of the line $y = mx + b$

- identify two points on the line - these do not have to be points from the scatterplot
- calculate slope of the line
- calculate the y-intercept

$$y = -\frac{10}{9}x + \frac{4}{3}$$

close to -1 close to 1

- ④ Predicting Future Outcomes:
What is the outcome (y-value) when $x = -18$?

$$y = -\frac{10}{9}(-18) + \frac{4}{3}$$

$$y = 21.\bar{3} = 21\frac{1}{3} = \frac{64}{3}$$

Types of Correlation:

