

Warm Up:

Write an equation in slope-intercept form for the line that passes through the given point and has the given slope.

1. $(0, -4), m = 2$
2. $(-2, 1), m = -3$
3. a) An electrician charges a \$75 service fee, plus \$65 per hour. Write an equation in slope-intercept form to represent this situation.

b) How much would a three hour service call cost?

Speak Like A Mathematician

bivariate data: data that consists of _____ pairs of values.

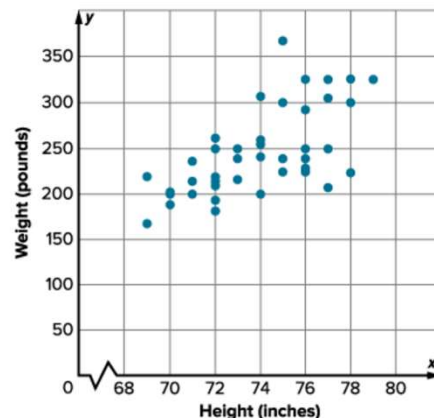
no correlation: bivariate data in which x and y are not _____.

line of fit: a line used to describe a _____ of the _____ in a scatter plot.

linear extrapolation: the use of a _____ equation to _____ data values that are _____ the range of data.

Example 1: Evaluate Correlation

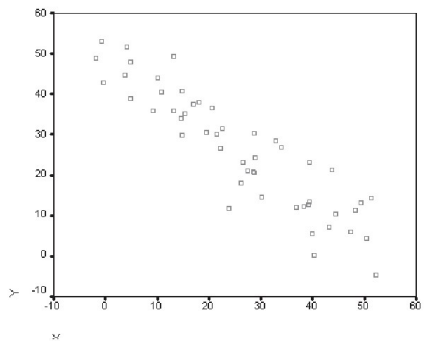
- a) The scatter plot displays the height and weight of the Detroit Lions football players. Determine whether the scatter plot shows a positive, negative or no correlation. If the correlation is positive or negative, describe the meaning in the situation.
- b) What type of correlation would you expect between a player's jersey number and his birth month?



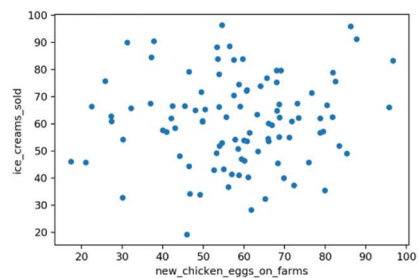
Example 1b: Evaluate Correlation

What type of correlation does each scatter plot have?

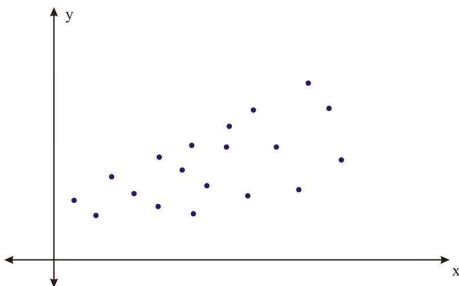
a)



b)



c)



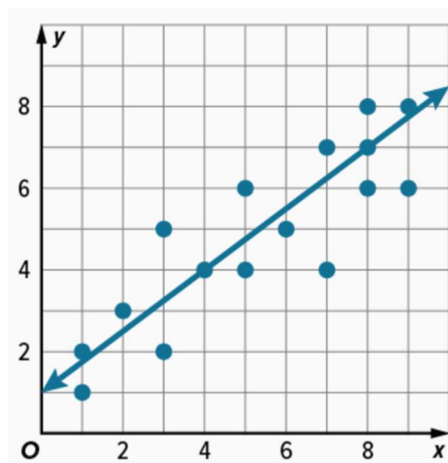
Key Concept: Using a Linear Function to Model Data

Step 1: Make a Scatter Plot.

Step 2: Draw a Line.

Step 3: Write an Equation.

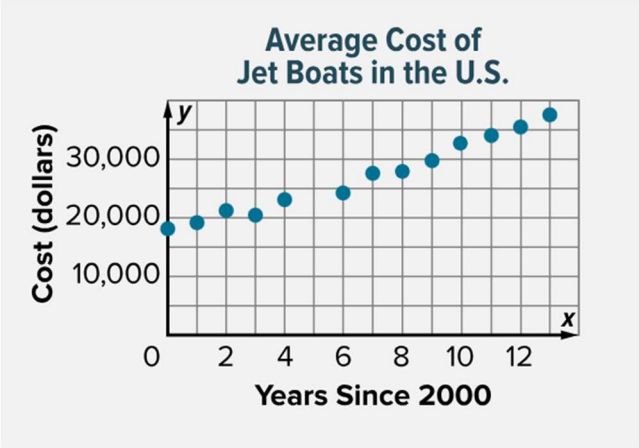
Step 4: Make Predictions.



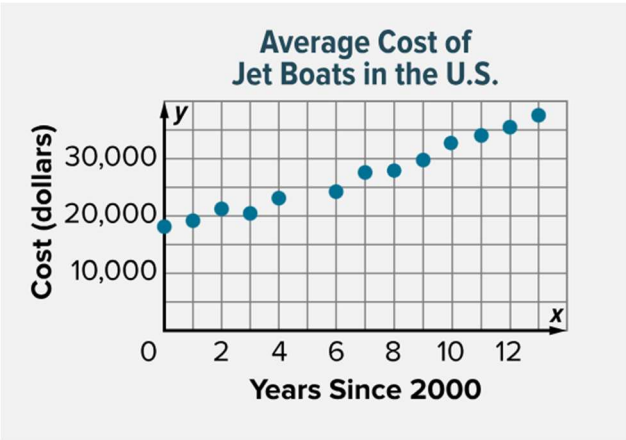
Example 2: Writing an Equation for a Line of Fit

The table shows the average cost of a jet boat in the years after 2000. Write an equation to represent the data. Then, use the equation to predict the cost of a jet boat in 2005 and 2025.

Step One. Make a Scatter Plot.



Step Two: Draw a Line of Fit



Step Three: Write an Equation.

Years Since 2000	Cost (dollars)
0	17,663
1	19,144
2	21,176
3	20,584
4	23,280
6	24,443
7	27,784
8	28,088
9	29,774
10	32,752
11	34,082
12	35,589
13	37,618

Step 4: Predict the cost in 2005.

Step 5: Predict the cost in 2025.