



Practice

The Correlation Coefficient

1. Select **all** the values for r that indicate a positive slope for the line of best fit.

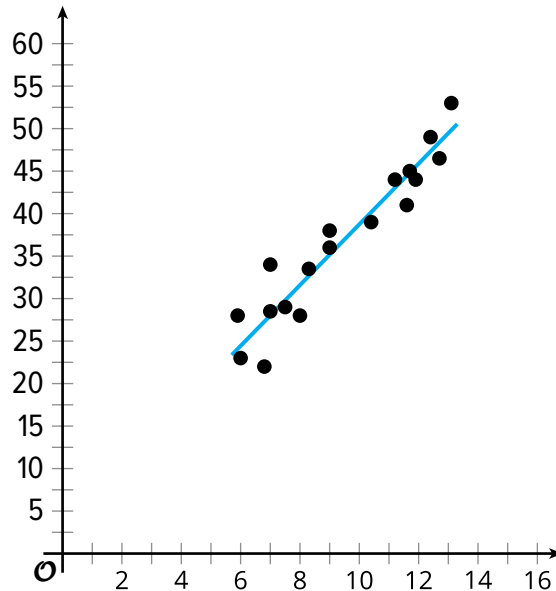
- (A.) 1
- (B.) -1
- (C.) 0.5
- (D.) -0.5
- (E.) 0
- (F.) 0.8
- (G.) -0.8

2. The correlation coefficient, r , is given for several different linear models for a data set. Which value for r indicates the best fit for the data?

- (A.) 0.01
- (B.) -0.34
- (C.) -0.82
- (D.) -0.95

3. Which of the values is the best estimate of the correlation coefficient for the line of best fit shown in the scatter plot?

- (A.) -0.9
- (B.) -0.4
- (C.) 0.4
- (D.) 0.9



NAME _____ DATE _____ PERIOD _____

4. Technology required.

A study investigated the relationship between the amount of daily food waste measured in pounds and the number of people in a household. The data in the table displays the results of the study. (Lesson 3-5)

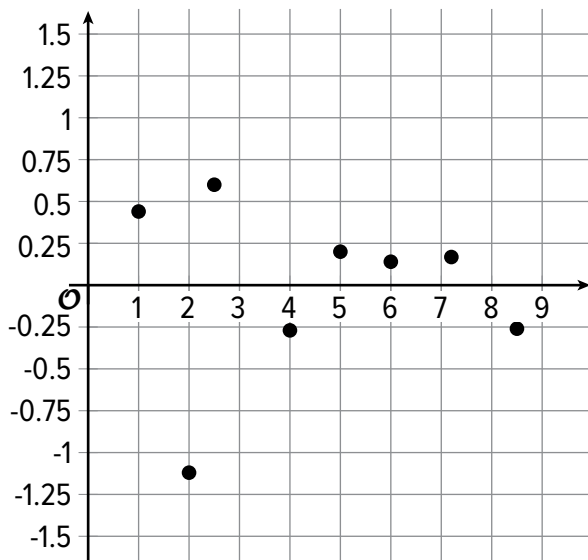
Number of People in Household, x	Food Waste (pounds), y
2	3.4
3	2.5
4	8.9
4	4.7
4	3.5
4	4
5	5.3
5	4.6
5	7.8
6	3.2
8	12

Use graphing technology to create the line of best fit for the data in the table.

- What is the equation of the line of best fit for this data? Round numbers to two decimal places.
- What is the slope of the line of best fit? What does it mean in this situation? Is this realistic?

- c. What is the y -intercept of the line of best fit? What does it mean in this situation? Is this realistic?

5. A table of values and the plot of the residuals for the line of best fit are shown. (Lesson 3-6)



x	y
1	10
2	8
2.5	9.5
4	8
5	8
6	7.5
7.2	7
8.5	6

- a. Which point does the line estimate the best?
- b. Which point does the line estimate the worst?
6. Tyler creates a scatter plot that displays the relationship between the grams of food a hamster eats, x , and the total number of rotations that the hamster's wheel makes, y . Tyler creates a line of best fit and finds that the residual for the point (1.4, 1250) is -132. The point (1.2, 1364) has a residual of 117. Interpret the meaning of 117 in the context of the problem. (Lesson 3-6)