Lesson 7 Practice Problems

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 data sets. Which value for r indicates the strongest correlation?

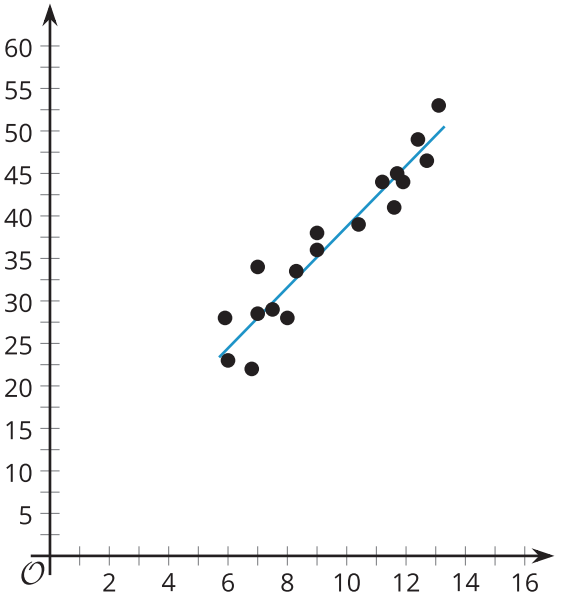
   A. 0.01

   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

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.

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.

a. What is the equation of the line of best fit for this data? Round numbers to two decimal places.

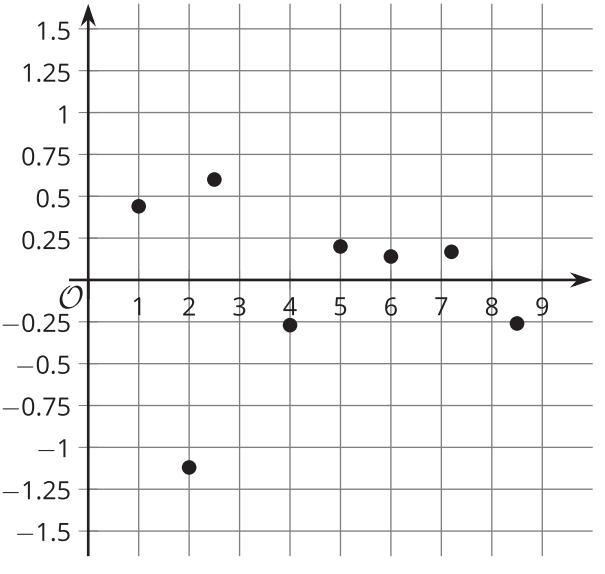
b. What is the slope of the line of best fit? What does it mean in this situation? Is this realistic?

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

(From Unit 3, Lesson 5.)

5. A table of values and the plot of the residuals for the line of best fit are shown.

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?

(From Unit 3, Lesson 6.)

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.

(From Unit 3, Lesson 6.)