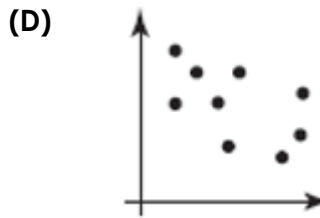
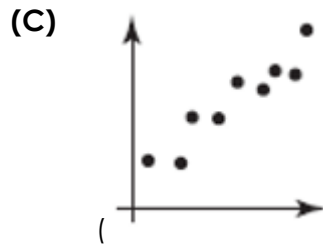
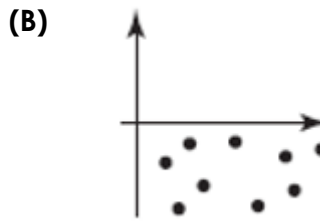
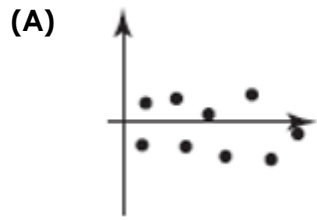


Learning Target 1: Scatterplots & Regression Models

1. Which scatterplot is most likely to have a correlation coefficient of $r = -0.5$?



2. What does a correlation coefficient of 0.916 suggest about a set of data?

3. What type of correlation, if any, would you expect from comparing a student's hair color to their college grades?

4. For which pair of variables would you most likely expect a **positive** correlation?

- (A) Driving speed and time it takes to reach a destination.
- (B) Years of school (high school, college, etc) and annual salary.
- (C) Distance from school and how long it takes to get ready in the morning.
- (D) Daily hours of electronic usage and test scores.

5. Which situation describes a correlation only and not a causation?

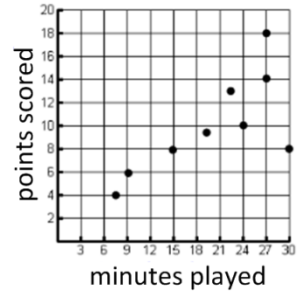
- | | |
|---|---|
| (A) The higher the volume on a radio, the louder the sound will be. | (B) The faster a student types a research paper, the more pages the paper will have. |
| (C) The shorter the distance driven, the less gasoline that will be used. | (D) The slower the pace of a runner, the longer it will take the runner to finish the race. |

6. Which statement suggests causation?

- | | |
|--|--|
| (A) When you are at the beach, you get wet. | (B) When you carry an umbrella to school, it rains. |
| (C) When you study for a test, your classmate studies too. | (D) When you don't brush your teeth, you get cavities. |

7. The data below represents the amount of time of play and the number of points scored by one player in a recent basketball game. Which statement best summarizes the relationship between x and y ?

- (A) The more time they practice, the more they play in the game.
- (B) The longer they play, the fewer points they score.
- (C) The longer they play causes them to score more points.
- (D) The longer they play, the more points they score.

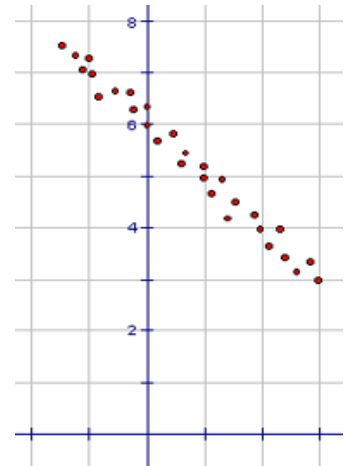


8. What is the equation of a line that best fits the data if the number of DVDs is related to the cost?

Number of DVDs (n)	Cost in dollars (C)
3	11
6	17
10	25

9. Which equation BEST represents the line of best fit for the scatterplot?

- (A) $y = x + 6$
- (B) $y = 3x + 6$
- (C) $y = -x + 6$
- (D) $y = -3x + 6$



10. A town tracks the number of new homes being built in a subdivision over 10 years as shown in the table below.

a. Calculate a linear regression model for the table (round answers to nearest whole numbers):

b. What does the "a" value represent in terms of the problem situation?

Year	New Homes
1	233
2	340
3	500
4	642
5	759
6	881
7	1011
8	1296
9	1485
10	1698

c. What does the "b" value represent in terms of the problem situation?

d. When will there be 2100 homes in the subdivision?