

Unit 6: Describing Data

6.1 Summarize, Represent and Interpret Data on a Single Count or Measurable Variable

1. This table shows the average low temperature, in °F, recorded in Macon, GA, and Charlotte, NC, over a six-day period.

Day	1	2	3	4	5	6
Temperature in Macon, GA (°F)	71	72	66	69	71	73
Temperature in Charlotte, NC (°F)	69	64	68	74	71	75

Which conclusion can be drawn from the data?

- A. The interquartile range of the temperatures is the same for both cities.
- B. The lower quartile for the temperatures in Macon is less than the lower quartile for the temperatures in Charlotte.
- C. The mean and median temperatures in Macon were higher than the mean and median temperatures in Charlotte.
- D. The upper quartile for the temperatures in Charlotte was less than the upper quartile for the temperatures in Macon.
2. A school was having a coat drive for a local shelter. The amount of coats each homeroom collected for the freshman and sophomore classes are shown.

- Freshman Homerooms: 4, 8, 6, 8, 7, 3
- Sophomore Homerooms: 6, 9, 3, 6, 11, 7

Which statement is true about the average number of coats collected by the freshman and sophomore homerooms?

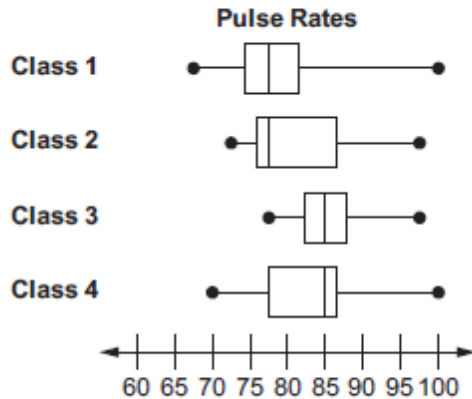
- A. The freshmen averaged 1 more coat collected than the sophomores.
- B. The freshmen averaged the same number of coats collected as the sophomores.
- C. The sophomores averaged 1 more coat collected than the freshmen.
- D. The sophomores averaged 3 more coats collected than the freshmen.
3. A reading teacher recorded the number of pages read in an hour by each of her students. The numbers are shown below.

44, 49, 39, 43, 50, 44, 45, 49, 51

For this data, which summary statistic is NOT correct?

- A. The minimum is 39.
- B. The lower quartile is 44.
- C. The median is 45.
- D. The maximum is 51.

4. A science teacher recorded the pulse of each of the students in her classes after the students had climbed a set of stairs. She displayed the results, by class, using the box plots shown.



Which class generally had the highest pulse after climbing the stairs?

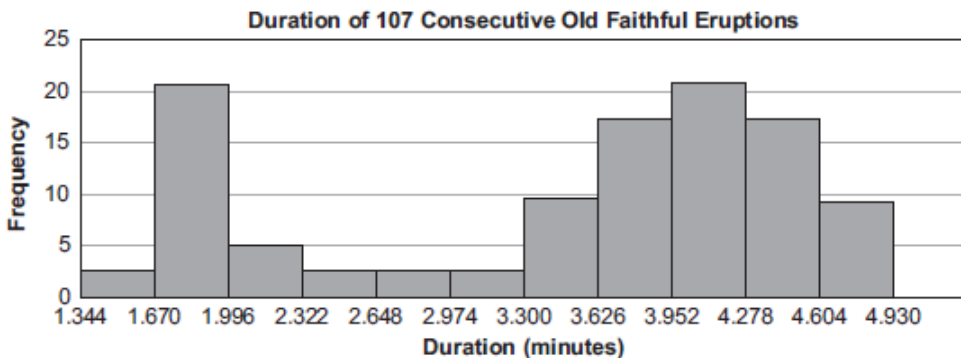
- A. Class 1
 - B. Class 2
 - C. Class 3
 - D. Class 4
5. Peter went bowling, Monday to Friday, two weeks in a row. He only bowled one game each time he went. He kept track of his scores below.

Week 1: 70, 70, 70, 73, 75

Week 2: 72, 64, 73, 73, 75

What is the BEST explanation for why Peter's Week 2 mean score was lower than his Week 1 mean score?

- A. Peter received the same score three times in Week 1.
 - B. Peter had one very low score in Week 2.
 - C. Peter did not beat his high score from Week 1 in Week 2.
 - D. Peter had one very high score in Week 1.
6. This histogram shows the frequency distribution of duration times for 107 consecutive eruptions of the Old Faithful geyser. The duration of an eruption is the length of time, in minutes, from the beginning of the spewing of water until it stops. What is the BEST description for the distribution?



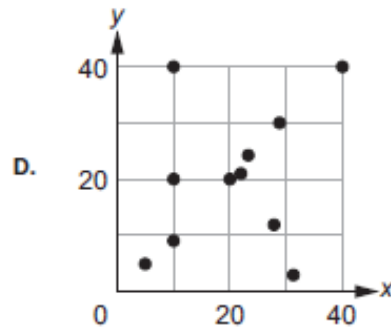
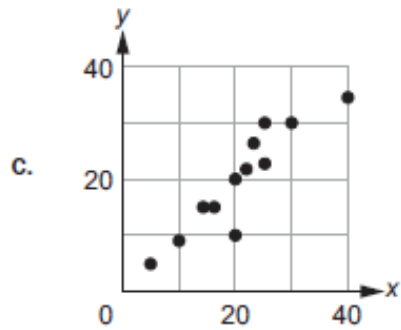
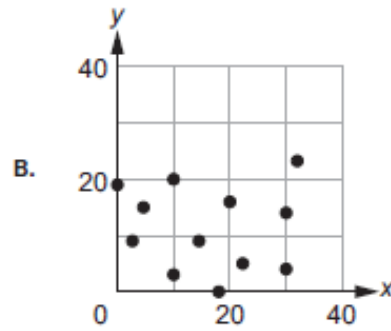
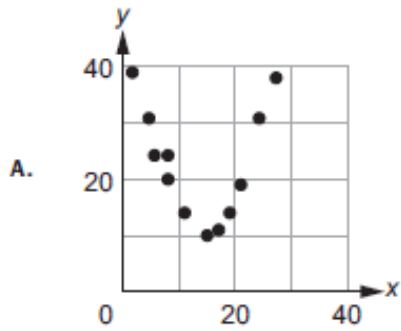
- A. bimodal
- B. uniform
- C. multiple outlier
- D. skewed to the right

Answers to Unit 6.1 Sample Items

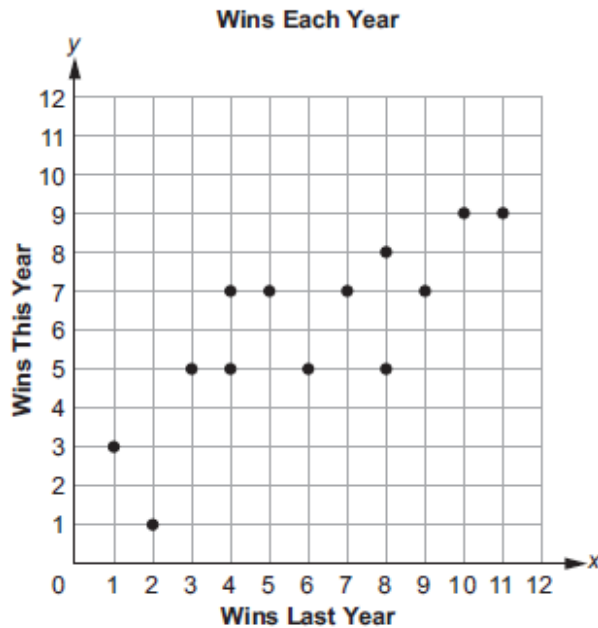
1. C 2. C 3. B 4. C 5. B 6. A

6.2 Summarize, Represent, and Interpret Data Two Categorical and Quantitative Variables

1. Which graph MOST clearly displays a set of data for which a quadratic function is the model of best fit?



2. This graph plots the number of wins last year and this year for a sample of professional football teams.

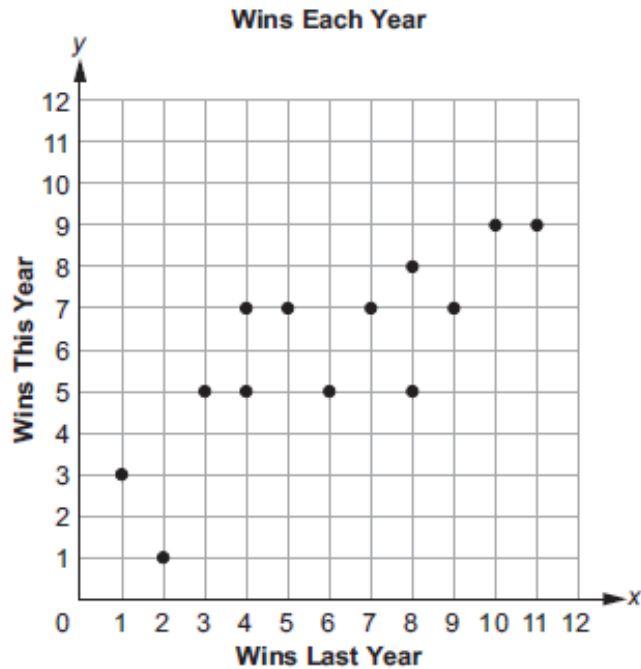


Which equation BEST represents a line that matches the trend of the data?

- A. $y = x + 2$
- B. $y = x + 7$
- C. $y = 0.6x - 0.2$
- D. $y = 0.6x + 2.4$

6.3 Interpret Linear Models

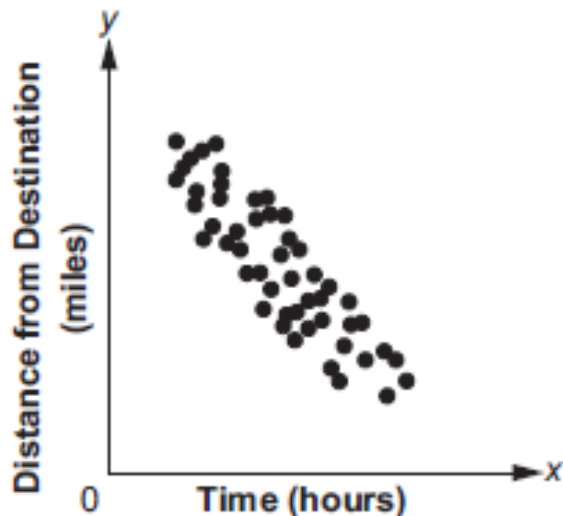
1. This graph plots the number of wins last year and this year for a sample of professional football teams.



Based on the line of best fit, which is the BEST prediction for wins this year for a team that won 4 games last year?

- A. 2
- B. 4
- C. 5
- D. 7

2. Which BEST describes the correlation of the two variables shown in the scatter plot?



- A. weak positive
 - B. strong positive
 - C. weak negative
 - D. strong negative
3. Which statement describes an example of causation?
- A. When the weather becomes warmer, more meat is purchased at the supermarket.
 - B. More people go to the mall when students go back to school.
 - C. The greater the number of new television shows, the lesser the number of moviegoers.
 - D. After operating costs are paid at a toy shop, as more toys are sold, more money is made.
4. To rent a carpet cleaner at the hardware store, there is a set fee and an hourly rate. The rental cost, c , can be determined using this equation when the carpet cleaner is rented for h hours.

$$c = 25 + 3h$$

Which of these is the hourly rate?

- A. 3
- B. $3h$
- C. 25
- D. $25h$

Answers to Unit 6.3 Sample Items

1. C 2. D 3. D 4. A