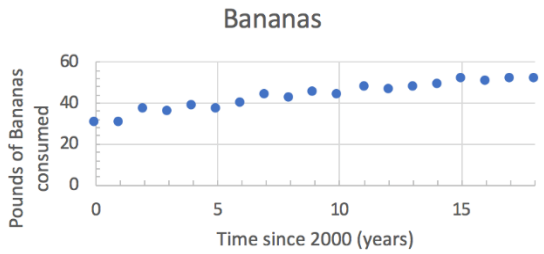
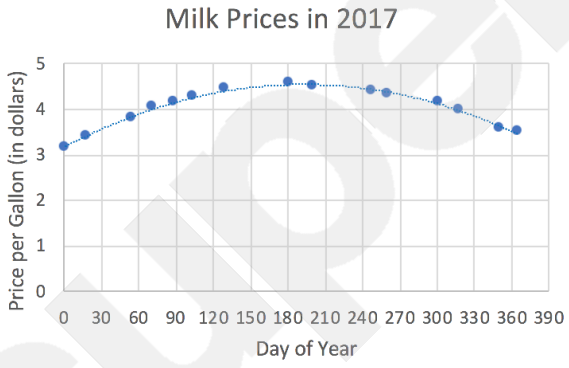
Scatterplots Practice

1. The scatterplot below shows the pounds, P, of bananas consumed at a bakery from 2000 to 2018 where t represents years since 2000. Which of the following equations best models the relationship between years since 2000 and the pounds of consumed bananas?



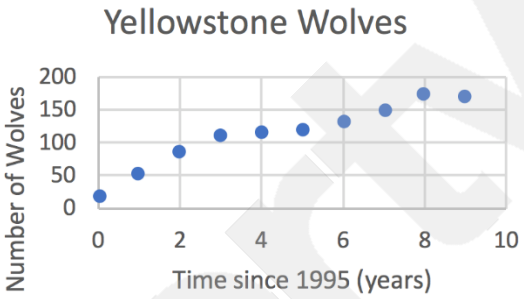
a. $P = 0.67t + 30$
b. $P = 1.33t + 30$
c. $P = 30t + 1.5$
d. $P = 2.8t + 30$

2. Amy kept track of milk prices at her local farmer's market throughout 2017. The scatterplot below shows the price, m, in dollars, for 1 gallon of milk on various days of the year, where d represents days since January 1, 2017. A function that models the data is shown on the graph. Which of the following best approximates the price for 1 gallon of milk on March 1, 2017, the 60th day of the year?



a. $4.00
b. $3.00
c. $4.50
d. $3.50

3. The scatterplot below shows the number of wolves, W, estimated to be living in Yellowstone National Park from 1995 to 2004. Which of the following equations best models the population of wolves in Yellowstone during this time period, where t represents the years since 1995.



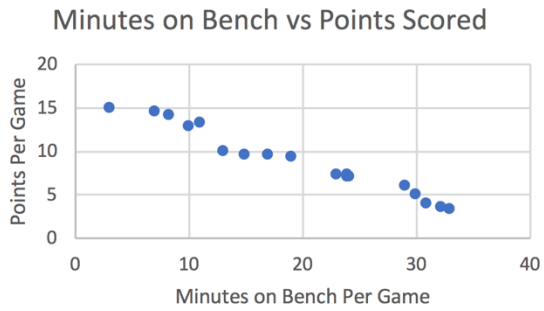
a. $W = 15.65t - 42.8$
b. $W = 42.8 - 15.65t$
c. $W = 42.8 + 15.65t$
d. $W = 15.6 + t$

4. The scatterplot below displays the price of 1 gram of gold, in dollars, from 2009 to 2015. If x represents the number of years since 2009, the graph of a quadratic model that best fits this data has a vertex (2.68, 1512.28), what does the vertex tell us about price of 1 gram of gold?

a. In the year 2011, the price for 1 gram of gold reached its exact maximum value of $1512.28.
b. In the year 2011, the price for 1 gram of gold reached its exact minimum value of $1512.28.
c. In approximately the year 2011, the price for 1 gram of gold reached it approximate maximum value of $1512.28.
d. In approximately the year 2011, the price for 1 gram of gold reached its approximate minimum value of $1512.28

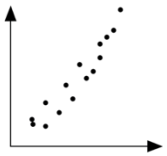
Scatterplots Practice

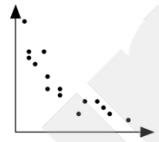
5. During the 2015-2016 season, a high school basketball coach recorded data on his team. The scatterplot below shows his findings for the average minutes on the bench per game and the average points scored per game for each player on the team. Which of the following equations best relates minutes on the bench per game, x, and the points scored per game, p, for players on this team?

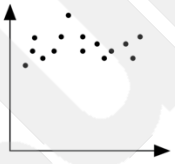


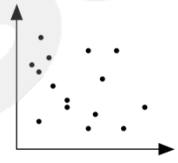
a. $p = 0.4x - 16$
b. $p = -0.4x + 16$
c. $p = -2.5x + 16$
d. $p = 0.5x + 16$

6. Which of the following graphs best shows a strong positive association?

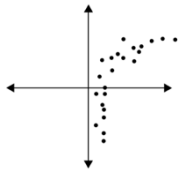
a.


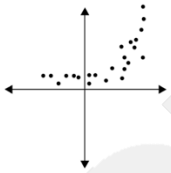
b.


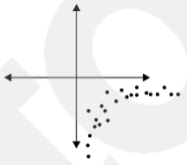
c.


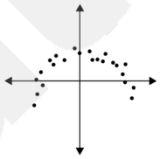
d.


7. Which of the following scatterplots shows a relationship that is appropriately modeled with the equation $y = ax^b$, where a and b are both positive constants?

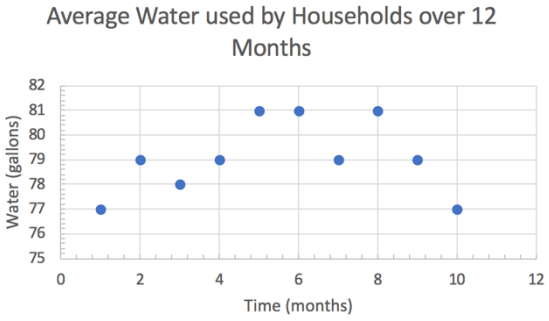
a.


b.


c.


d.


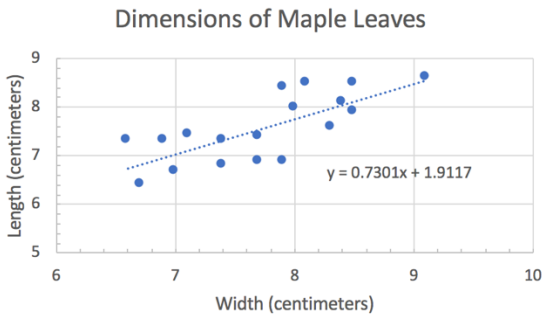
8. The scatterplot shown below depicts the amount of water, in gallons, used by an average household in a particular city over a 12-month period. Of the following equations, which best models the data in the scatterplot?



a. $y = 0.1553x^2 + 1.7992x + 75.183$
b. $y = -0.1553x^2 - 1.7992x - 75.183$
c. $y = 0.1553x^2 + 1.7992x - 75.183$
d. $y = -0.1553x^2 + 1.7992x + 75.183$

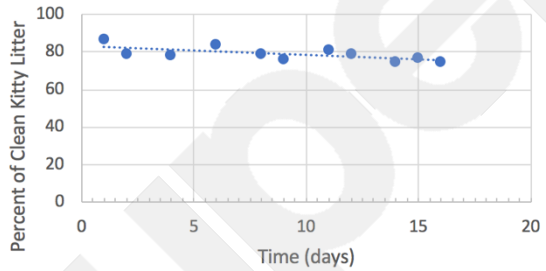
Scatterplots Practice

9. The scatterplot below shows data collected on the lengths and widths of maple leaves. A line of best fit for the data is also shown. Based on the line of best fit, if the width of a Maple leaf is 7.8 centimeters, what is the approximate predicted length, in centimeters, of the leaf?



a. 0.81
b. 7.4
c. 7.6
d. 7.8

10. The figure below shows the relationship between the percent of clean cat litter remaining at the end of the day and time, in days. A line of best fit is also shown. Based on the line of best fit, which of the following is the closest to the predicted percent of clean cat litter at the end of the day 13 days from the very first day data was recorded?



a. 83%
b. 80%
c. 78%
d. 70%