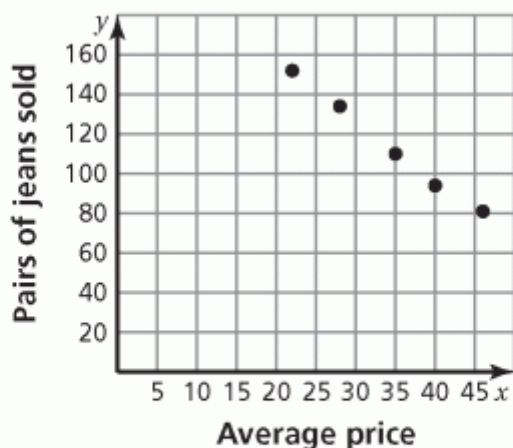


Pg 376-377 #1-17 (skip #15)

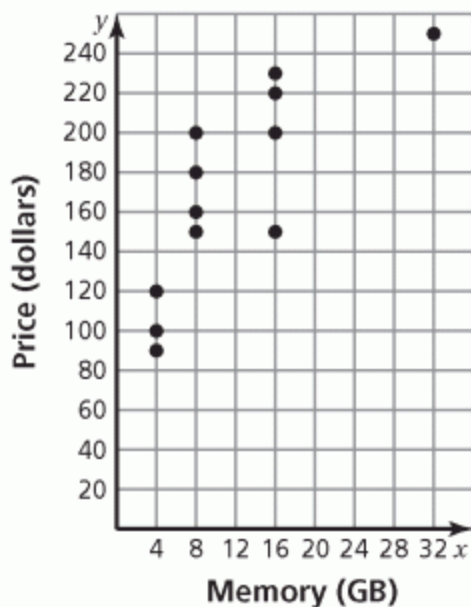
1. They must be ordered pairs so there are equal amounts of x - and y -values.
2. It is a data point that is far removed from the other points in a data set.
3. no relationship; A student's shoe size is not related to his or her IQ.
4. negative linear relationship; As time passes, the distance to the destination decreases.
5. nonlinear relationship; On each successive bounce, the ball rebounds to a height less than its previous bounce.
6. positive linear relationship; As the number of toppings increase, the price of the pizza will increase.
7. a. (22, 152), (40, 94), (28, 134), (35, 110), (46, 81);



- b. As the average price of jeans increases, the number of pairs of jeans sold decreases.

- 8.
 - a. 2011
 - b. about 875 SUVs
 - c. negative linear relationship
- 9.
 - a. 3.5 h
 - b. \$85
 - c. There is a positive linear relationship between hours worked and earnings.
- 10. negative linear relationship; outlier at (15, 10), gap between x -values of 15 to 25 and y -values of 23 to 33
- 11. nonlinear relationship; no outliers, gaps, or clusters
- 12. no relationship; no obvious outliers, gaps, or clusters
- 13. positive linear relationship
- 14.
 - a. positive linear relationship
 - b. The more time spent studying, the better the test score.

16. a.



The data show a weak positive linear relationship.

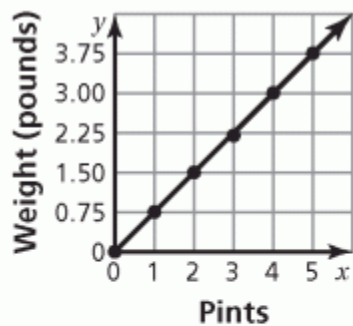
- b. *Sample answer:* The point (32, 250) is an outlier because the store only offers one 32 GB 7-inch tablet and 32 GB is significantly greater than the other options. There are gaps between $x = 4$, $x = 8$, and $x = 16$ because these are the only available options for memory. There are clusters along $x = 4$, $x = 8$, and $x = 16$ because these are the only available options for memory.

17. See *Taking Math Deeper*.

Pg 382 #1-11 (skip #7)

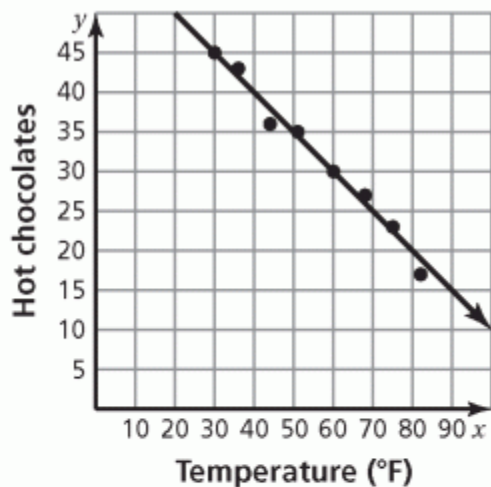
1. You can estimate and predict values.
2. *Sample answer:* not a good representation; Too many points in the data set lie below the line.
3. -0.98 , because it is closer to -1 than 0.91 is to 1 .
 $(|-0.98| > |0.91|)$

4. a-b.



- c. *Sample answer:* $y = 0.75x$
- d. *Sample answer:* 7.5 lb
- e. *Sample answer:* \$16.88

5. a.



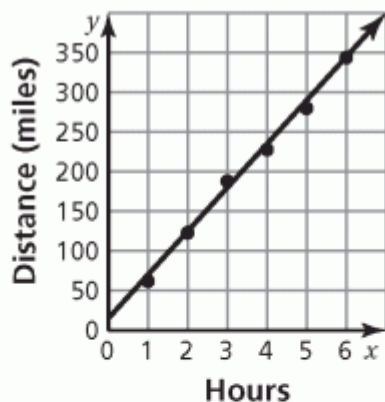
b. *Sample answer:*

$$y = -0.5x + 60$$

c. *Sample answer:* The slope is -0.5 and the y -intercept is 60. So, you could predict that 60 hot chocolates are sold when the temperature is 0°F , and the sales decrease by about 1 hot chocolate for every 2°F increase in temperature.

d. 50 hot chocolates

6. a.



b. *Sample answer:* $y = 55x + 15$

c. 55 miles

d. 15 miles

e. *Sample answer:* 400 mi

8. $y = -9.6x + 883$; $r \approx -0.96$; The relationship between x and y is a strong negative correlation and the equation closely models the data.

9. $y = 0.9x + 4$; $r \approx 0.999$; The relationship between x and y is a strong positive correlation and the equation closely models the data; 4 in.

10. See *Taking Math Deeper*.

11. a. $y = 48x + 11$; $r \approx 0.98$; The relationship between x and y is a strong positive correlation and the equation closely models the data.

b. 251 feet

c. The height of a hit baseball is not linear. The best fit line from part (a) only models a small part of the data.

Pg 390-391 #3-13

3. total of females surveyed: 73;
total of males surveyed: 59
4. total of “no” participants: 52;
total of “yes” participants: 80
5. 51
6. 30
7. 71 students are juniors;
75 students are seniors;
93 students are attending
the school play; 53 students are not
attending the
school play.
8. 78 people have limited cell phone
texting plans;
190 people have unlimited cell
phone texting plans; 253 people have
limited cell phone minutes; 15 people
have unlimited cell phone minutes.
9. a. 19; 42

b. number of students surveyed:
72 6th-graders,
74 7th-graders,
65 8th-graders;
112 students chose grades, 40
students chose popularity, 59
students chose sports.

c. about 8.5%

10. a.

| | | Age | | | Total |
|-----------------------------|-------|-------|-------|-------|-------|
| | | 20–29 | 30–39 | 40–49 | |
| Saved at Least \$1000 | Yes | 14 | 27 | 25 | 66 |
| | No | 36 | 33 | 15 | 84 |
| | Total | 50 | 60 | 40 | 150 |

b.

| | | Age | | |
|-----------------------------|-----|-------|-------|-------|
| | | 20–29 | 30–39 | 40–49 |
| Saved at Least \$1000 | Yes | 28% | 45% | 62.5% |
| | No | 72% | 55% | 37.5% |

- c. Yes, the table shows that as age increases, people are more likely to have at least \$1000 in savings.

11. a.

| | | Eye Color | | | |
|--------|--------|-----------|------|-------|-------|
| | | Green | Blue | Brown | Total |
| Gender | Male | 5 | 16 | 27 | 48 |
| | Female | 3 | 19 | 18 | 40 |
| | Total | 8 | 35 | 45 | 88 |

- b. 48 males were surveyed.
 40 females were surveyed.
 8 students have green eyes.
 35 students have blue eyes.
 45 students have brown eyes.

c.

| | | Eye Color | | |
|--------|--------|-----------|------|-------|
| | | Green | Blue | Brown |
| Gender | Male | 63% | 46% | 60% |
| | Female | 38% | 54% | 40% |

Sample answer: About 63% of the students with green eyes are male. 40% of the students with brown eyes are female.

12.

| | | Eye Color | | |
|--------|--------|-----------|-------|-------|
| | | Green | Blue | Brown |
| Gender | Male | 10.4% | 33.3% | 56.3% |
| | Female | 7.5% | 47.5% | 45% |

Sample answers: About 10.4% of the males surveyed have green eyes. 7.5% of the females surveyed have green eyes.

13. See *Taking Math Deeper*.

Pg 397-399 #4-18

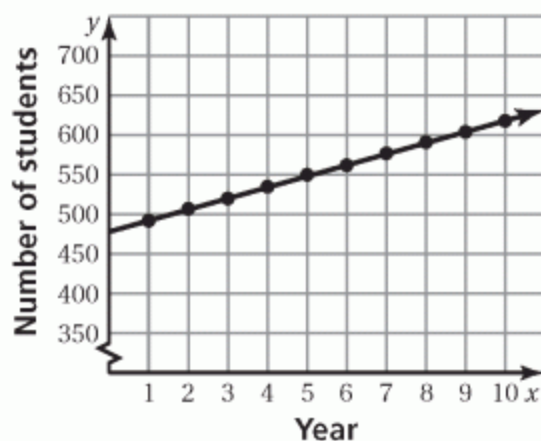
4. *Sample answer:* stem-and-leaf plot; shows how data is distributed
5. *Sample answer:* line graph; shows changes over time
6. *Sample answer:* dot plot; shows the number of times each outcome occurs
7. *Sample answer:* line graph; shows changes over time
8.
 - a. yes; The pictograph shows the number of hours worked each month using pictures.
 - b. yes; The bar graph shows the number of hours worked each month.
9.
 - a. yes; The circle graph shows the data as parts of the whole.
 - b. no; The bar graph shows the number of students, not the portion of students.
10. when the data are in terms of intervals of one category, as opposed to multiple categories; *Sample answer:* You can use a histogram to display the frequencies of voters in the last election by age group.

11. The pictures of the bikes are the largest on Monday and the smallest on Wednesday, which makes it seem like the distance is the same each day.
12. The break in the scale for the vertical axis makes it appear as though there is a greater difference in sales between months.
13. The intervals are not the same size.
14. The widths of the bars are different, so it looks like some months have more rainfall.
15. *Sample answer:* bar graph; Each bar can represent a different vegetable.
16. yes; The vertical axis has a scale that increases by powers of 10, which makes the data appear to have a linear relationship.
17. *Sample answer:* dot plot
18.
 - a. The percents do not sum to 100%.
 - b. *Sample answer:* bar graph; It would show the frequency of each sport.

Pg 401-403 #1-5, 7, 10, 11

1. a. 2012
b. 225 geese
c. positive linear relationship
2. negative linear relationship; outlier: (21, 40)
3. no relationship; cluster around (12, 16)
4. positive linear relationship; gap from $x = 12$ to $x = 18$

5. a.



- b. *Sample answer:*
 $y = 14x + 478$
- c. *Sample answer:* The slope is 14 and the y-intercept is 478. So, the number of students in the year prior to the 10-year period was about 478 and the number of students is increasing by about 14 students per year.
- d. 632 students

7.

| | | Food Court | | |
|-----------|-----------------|------------|----------|-------|
| | | Likes | Dislikes | Total |
| Age Group | Teenagers | 96 | 4 | 100 |
| | Adults | 21 | 79 | 100 |
| | Senior Citizens | 18 | 82 | 100 |
| | Total | 135 | 165 | 300 |

10. *Sample answer:* line graph; shows changes over time

11. *Sample answer:* scatter plot; shows the relationship between two data sets