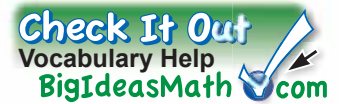


7 Chapter Review



Review Key Vocabulary

measure of central tendency, p. 276
 box-and-whisker plot, p. 282
 quartiles, p. 282

scatter plot, p. 290
 line of best fit, p. 292

Review Examples and Exercises

7.1 Measures of Central Tendency (pp. 274–279)

The table shows the number of kilometers you ran each day for the past 10 days. Find the mean, median, and mode of the distances.

Kilometers Run	
3.5	4.1
4.0	4.3
4.4	4.5
3.9	2.0
4.3	5.0

Mean: $\frac{\text{sum of the data}}{\text{number of values}} = \frac{40}{10} = 4$

Median: 2.0, 3.5, 3.9, 4.0, 4.1, 4.3, 4.3, 4.4, 4.5, 5.0

Order the data.

$$\frac{8.4}{2} = 4.2$$

Mean of two middle values

Mode: 2.0, 3.5, 3.9, 4.0, 4.1, 4.3, 4.3, 4.4, 4.5, 5.0

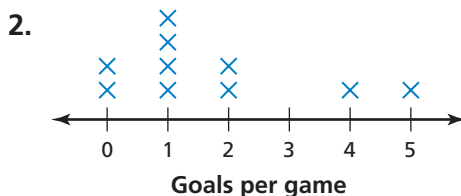
The value 4.3 occurs most often.

∴ The mean is 4 kilometers, the median is 4.2 kilometers, and the mode is 4.3 kilometers.

Exercises

- Use the data in the example above. You run 4.0 miles on day 11. How does this additional value affect the mean, median, and mode? Explain.

Find the mean, median, and mode of the data.



3. Ski Resort Temperatures (°F)

11	3	3
0	-9	-2
10	10	10

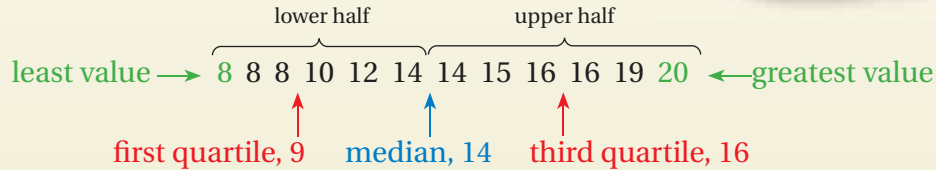
7.2 Box-and-Whisker Plots (pp. 280–285)

Make a box-and-whisker plot for the weights (in pounds) of pumpkins sold at a market.

16, 20, 14, 15, 12, 8, 8, 8, 19, 14, 10, 8, 16

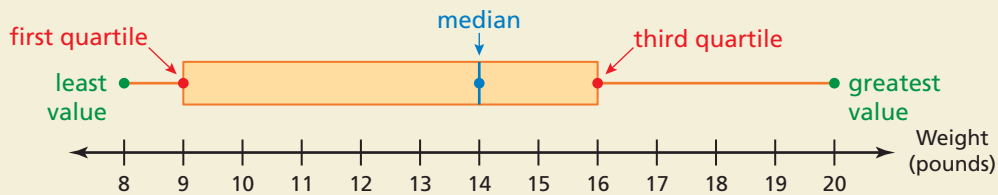


Step 1: Order the data. Find the median and the quartiles.



Step 2: Draw a number line that includes the least and greatest values. Graph points above the number line for the least value, greatest value, median, first quartile, and third quartile.

Step 3: Draw a box using the quartiles. Draw a line through the median. Draw whiskers from the box to the least and greatest values.



Exercises

Make a box-and-whisker plot for the data.

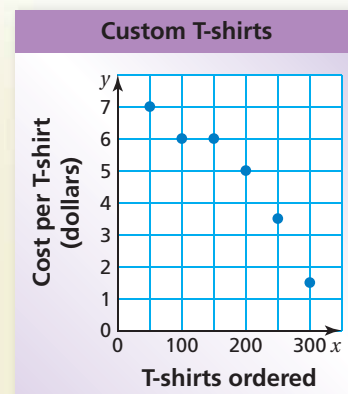
- Ages of volunteers at a hospital: 14, 17, 20, 16, 17, 14, 21, 18
- Masses (in kilograms) of lions: 120, 200, 180, 150, 200, 200, 230, 160

7.3 Scatter Plots and Lines of Best Fit (pp. 288–295)

Your school is ordering custom T-shirts. The scatter plot shows the number of T-shirts ordered and the cost per shirt. What tends to happen to the cost per shirt as the number of T-shirts ordered increases?

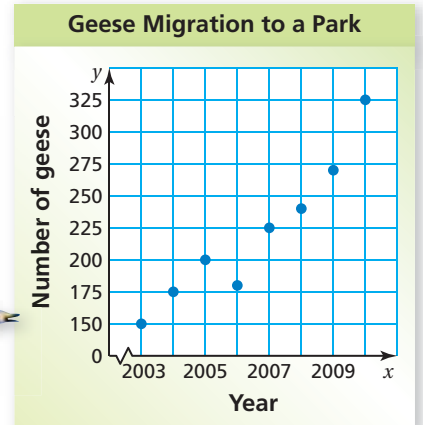
Looking at the graph, the plotted points go down from left to right.

- So, as the number of T-shirts ordered increases, the cost per shirt decreases.



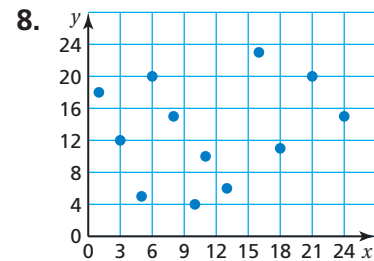
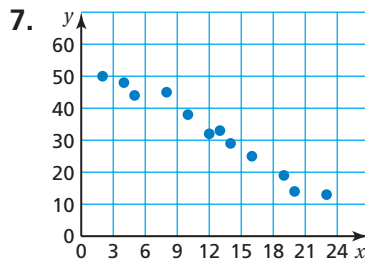
Exercises

6. The scatter plot shows the number of geese that migrated to a park each season.



- In what year did 270 geese migrate?
- How many geese migrated in 2007?
- Describe the relationship shown by the data.

Tell whether the data show a *positive*, a *negative*, or *no* relationship.



7.4 Choosing a Data Display (pp. 296–301)

Choose an appropriate data display for the situation. Explain your reasoning.

- the percent of votes that each candidate received in an election
 - ⋮ A circle graph shows data as parts of a whole. So, a circle graph is an appropriate data display.
- the distribution of the ages of U.S. presidents
 - ⋮ A stem-and-leaf plot orders numerical data and shows how they are distributed. So, a stem-and-leaf plot is an appropriate data display.

Exercises

Choose an appropriate data display for the situation. Explain your reasoning.

- the number of pairs of shoes sold by a store each week
- the outcomes of spinning a spinner with 3 equal sections numbered 1, 2, and 3
- comparison of the number of cans of food donated by each eighth-grade class
- comparison of the heights of brothers and sisters