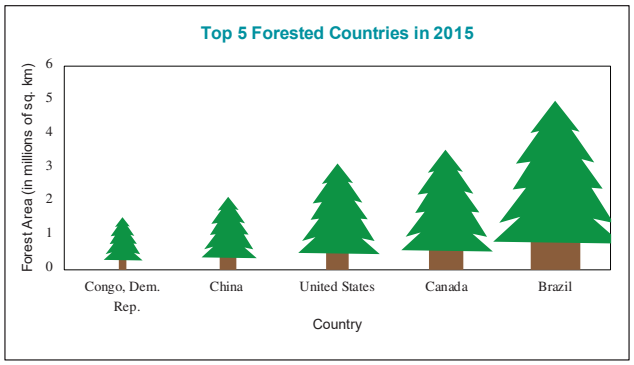
Incorrect Pictograph



Correct Pictograph

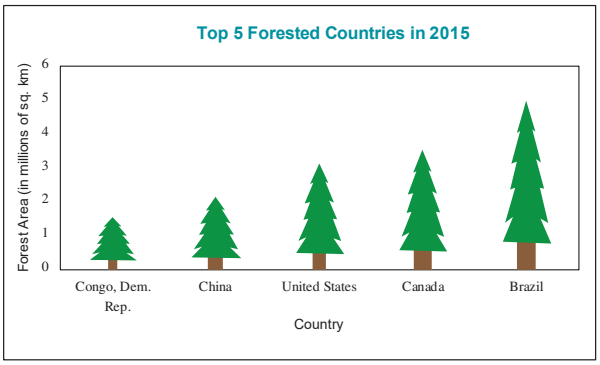


Figure 3.5.6

3.5 Exercises

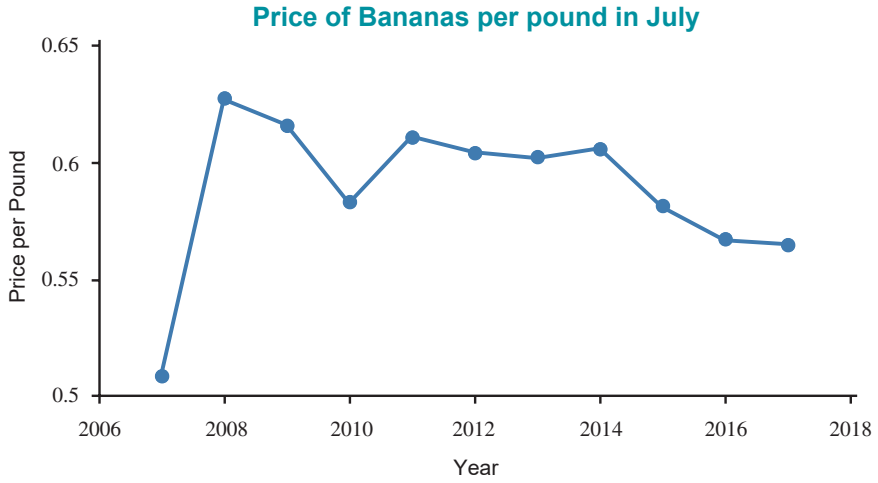
Basic Concepts

1. Why is it important to label and title graphs properly?
2. What types of sources are reliable?
3. Why is the scaling of a graph important?
4. Why are data transformations useful?

Exercises

5. Do you see any issues with the scales used on the axes of the graph depicting banana prices per pound in July? Why or why not?

   Source: https://data.bls.gov/cgi-bin/surveymost



6. Using the San Francisco Salaries 2014 data set from the web resource, create a histogram for the variable TotalPayBenefits and answer the following:
   a. Does the distribution of the data in the histogram look bell-shaped, skewed right, or skewed left?
   b. Construct a new histogram for the variable LogTotalPayBenefits, which is a log transformation of the variable TotalPayBenefits.
   c. Does the distribution of the data in the log transformed histogram look bell-shaped, skewed right, or skewed left?

Data

stat.hawkeslearning.com
Discovering Business Statistics, Second Edition > Data Sets > San Francisco Salaries 2014

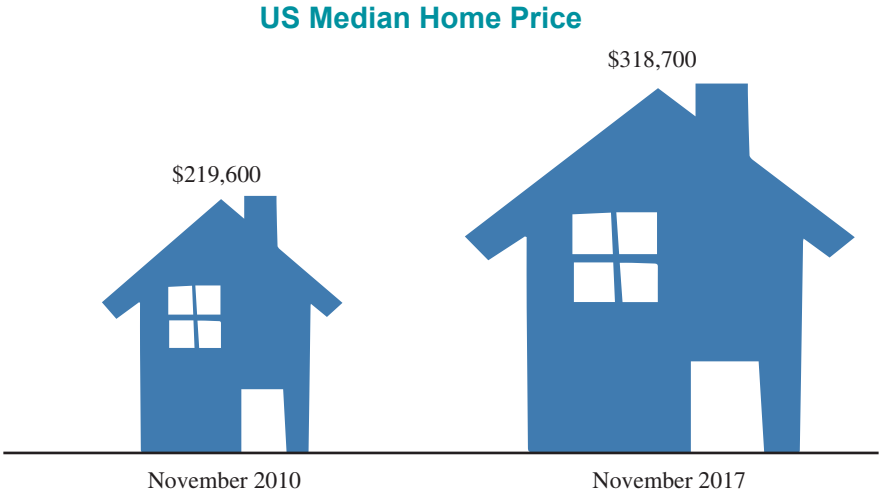
7. The US median home price increased from \$219,600 in November 2010 to \$318,700 in November 2017, as shown in the following pictograph.

Source: U.S. Census Bureau

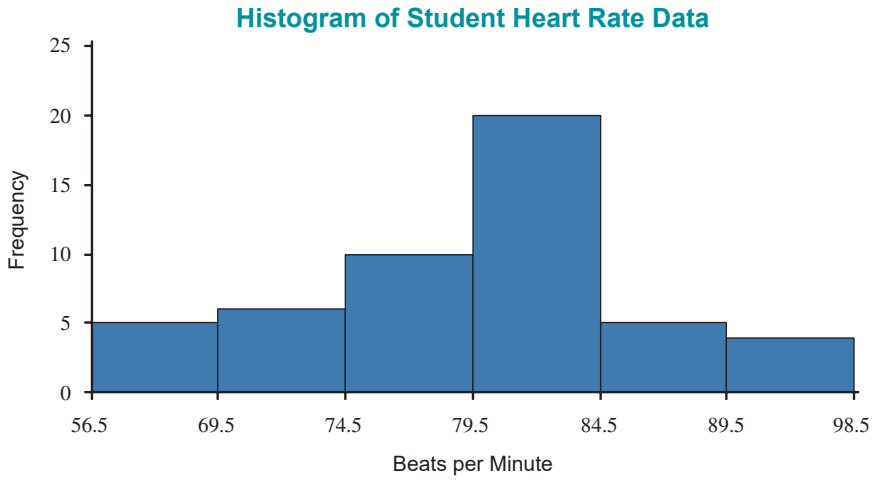
a. What was the percentage increase in US median home price between November 2010 and November 2017?

b. Is the pictograph shown an accurate depiction of this increase? Why or why not?

c. How could you improve the pictograph so that it accurately represents the information?



8. The following histogram uses the heart rate data from Example 3.3.1 but has different classes than were used in the example. What errors can you find in the histogram?



9. The number of robberies in North Charleston, SC is depicted in two different graphs below. Use these graphs to answer the following.

Source: northcharleston.org

a. Which graph do you feel better represents the data? Why?

b. If you lived in North Charleston, how concerned would each of these graphs make you feel? Explain.

c. Approximately how many times taller is the 2016 bar compared to the 2013 bar in Graph B? How many times more robberies were there actually in 2016 compared to 2013?