

# EXERCISES

1. Here are the starting salaries, in thousands of dollars, offered to the 20 students who earned degrees in computer science in 2011 at a university.

63    56    66    77    50    53    78    55    90    65  
64    69    59    76    48    54    49    68    51    50

a. Make a graph to describe the distribution and write a brief description of its important features.

b. Find the median salary.

c. Find the mean salary.

d. Find the mode of the salaries.

e. Is the mean about the same as the median or not? What feature of the distribution explains the difference between the mean and the median? Is the mode a good measure of the center for these data?

2. Each month, the Commerce Department reports the “average” price of new single-family homes. For August 2012, the two “averages” reported were \$256,900 and \$295,300. Which of these numbers was the mean price and which was the median price? Explain your answer.

3. In 1961 New York Yankee outfielder Roger Maris held the major league record for home runs in a single season, with 61 home runs. That record held for 37 years. Here are Maris’s home run totals for his 10 years in the American League.

13, 23, 26, 16, 33, 61, 28, 39, 14, 8

a. Find the mean number of home runs that Maris hit in a year, both with and without his record 61. How does removing the record number of home runs affect his mean number of runs?

b. Find the median number of home runs that Maris hit in a year, both with and without his record 61. How does removing the record number of home runs affect his median number of runs?

c. If you had to choose between the mean and median to describe Maris's home run hitting pattern, which would you use?

4. Refer to Table 3.3 (Unit 3). This table gives the number and percentage of residents 65 and older in each state and the District of Columbia.

a. Unit 3, Exercise 1(a) asked you to draw a histogram of the numbers of residents 65 and older. (If you haven't already done so, draw the histogram.) Compute the mean and median of these data. Which measure of location, the mean or the median, better describes the location of the numbers of residents 65 and older? Justify your choice based on a histogram of these data.

b. Unit 3, Exercise 2(a) asked you to draw a histogram of the percentage of residents 65 and older. (If you haven't already done so, draw the histogram.) Compute the mean and median of these data. Which measure of location, the mean or the median, better describes the location of the percentage of residents 65 and older? Justify your choice based on a histogram of the percentages.