- Examine a histogram or normal quantile plot to determine whether sample data appear to be from a population having a normal distribution (Section 2-3).
- Construct graphs of data using a scatterplot (for paired data), frequency polygon, dotplot, stemplot, bar graph, multiple bar graph, Pareto chart, pie chart, or time-series graph (Section 2-4).
- Critically analyze a graph to determine whether it objectively depicts data or is somehow misleading or incorrect (Section 2-4).

Chapter Quick Quiz

1. When one is constructing a table representing the frequency distribution of weights (lb) of discarded textile items from Data Set 23 in Appendix B, the first two classes of a frequency distribution are 0.00–0.99 and 1.00–1.99. What is the class width?

2. Using the same first two classes from Exercise 1, identify the class boundaries of the first class.

3. The first class described in Exercise 1 has a frequency of 51. If you know only the class limits given in Exercise 1 and the frequency of 51, can you identify the original 51 data values?

4. A stemplot is created from the intervals (min) between eruptions of the Old Faithful geyser in Yellowstone National Park, and one row of that stemplot is 6 | 1222279. Identify the values represented by that row.

5. In the California Daily 4 lottery, four digits between 0 and 9 inclusive are randomly selected each day. We normally expect that each of the ten different digits will occur about 1/10 of the time, and an analysis of last year's results shows that this did happen. Because the results are what we normally expect, is it correct to say that the distribution of selected digits is a normal distribution?

6. In an investigation of the travel costs of college students, which of the following does not belong: center; variation; distribution; bar graph; outliers; changing patterns over time?

7. In an investigation of the relationship between SAT scores and grade point averages (GPA) of college students, which of the following graphs is most helpful: histogram; pie chart; scatterplot; stemplot; dotplot?

8. As a quality control manager at Sony, you find that defective CDs have various causes, including worn machinery, human error, bad supplies, and packaging mistreatment. Which of the following graphs would be best for describing the causes of defects: histogram; scatterplot; Pareto chart; dotplot; pie chart?

9. What characteristic of a data set can be better understood by constructing a histogram?

10. A histogram is to be constructed from the brain sizes listed in Data Set 6 of Appendix B. Without actually constructing that histogram, simply identify two key features of the histogram that would suggest that the data have a *normal distribution.*

Review Exercises

1. Frequency Distribution of Brain Volumes Construct a frequency distribution of the 20 brain volumes (cm^3) listed below. (These volumes are from Data Set 6 of Appendix B.) Use the classes 900–999, 1000–1099, and so on.

1005	963	1035	1027	1281	1272	1051	1079	1034	1070
1173	1079	1067	1104	1347	1439	1029	1100	1204	1160