NYSE	4,279.63	218.56
Tokyo	3,619.02	n.a.

Source: Nicholas Bray, "London Stock Exchange Is under Siege," The Wall Street Journal (September 29, 1995): A6.

● Chapter Concepts Test

Circle the correct answer or fill in the blank. *Answers are in the back of the book.*

T F 1. In comparison to a data array, the frequency distribution has the advantage of representing data in compressed form.

T F 2. A "more-than" ogive is S-shaped and slopes down and to the right.

T F 3. A histogram is a series of rectangles, each proportional in width to the number of items falling within a specific class of data.

T F 4. A single observation is called a data point, whereas a collection of data is known as a tabular.

T F 5. The classes in any relative frequency distribution are both all-inclusive and mutually exclusive.

T F 6. When a sample contains the relevant characteristics of a certain population in the same proportions as they are included in that population, the sample is said to be a representative sample.

T F 7. A population is a collection of all the elements we are studying.

T F 8. If we were to connect the midpoints of the consecutive bars of a frequency histogram with a series of lines, we would be graphing a frequency polygon.

T F 9. Before information is arranged and analyzed, using statistical methods, it is known as preprocessed data.

T F 10. One disadvantage of the data array is that it does not allow us to easily find the highest and lowest values in the data set.

T F 11. Discrete data can be expressed only in whole numbers.

T F 12. As a general rule, statisticians regard a frequency distribution as incomplete if it has fewer than 20 classes.

T F 13. It is always possible to construct a histogram from a frequency polygon.

T F 14. The vertical scale of an ogive for a relative frequency distribution marks the fraction of the total number of observations that falls into each class.

T F 15. A data array is formed by arranging raw data in order of time of observation.

T F 16. A "less-than" ogive is S-shaped and slopes down and to the right.

T F 17. One advantage of a histogram in comparison with a frequency polygon is that it more clearly shows each separate class in the distribution.

T F 18. A baseball player's batting average is computed using a sample.

T F 19. A frequency distribution organizes data into groups of values describing one or more characteristics of the data.

T F 20. A series of rectangles, each proportional in width to the range of values within a class and proportional in height to the number of items falling in the class, is called a frequency polygon.

T F 21. The class widths of a frequency distribution are of equal size.

A B C D 22. Which of the following represents the most accurate scheme of classifying data?

(a) Quantitative methods.
(b) Qualitative methods.
(c) A combination of quantitative and qualitative methods.
(d) A scheme can be determined only with specific information about the situation.

A B C D 23. Which of the following is NOT an example of compressed data?

(a) Frequency distribution.
(b) Data array.
(c) Histogram.
(d) Ogive.

A B C D E 24. Which of the following statements about histogram rectangles is correct?

(a) The rectangles are proportional in height to the number of items falling in the classes.
(b) There are generally five rectangles in every histogram.
(c) The area in a rectangle depends only on the number of items in the class as compared to the number of items in all other classes.
(d) All of these.
(e) (a) and (c) but not (b).

A B C D E 25. Why is it true that classes in frequency distributions are all-inclusive?

(a) No data point falls into more than one class.
(b) There are always more classes than data points.
(c) All data fit into one class or another.
(d) All of these.
(e) (a) and (c) but not (b).

A B C D 26. When constructing a frequency distribution, the first step is

(a) Divide the data into at least five classes.
(b) Sort the data points into classes and count the number of points in each class.
(c) Decide on the type and number of classes for dividing the data.
(d) None of these.

A B C D 27. As the numbers of observations and classes increase, the shape of a frequency polygon

(a) Tends to become increasingly smooth.
(b) Tends to become jagged.
(c) Stays the same.
(d) Varies only if data become more reliable.

A B C D 28. Which of the following statements is true of cumulative frequency ogives for a particular set of data?
(a) Both "more-than" and "less-than" curves have the same slope.
(b) "More-than" curves slope up and to the right.
(c) "Less-than" curves slope down and to the right.
(d) "Less-than" curves slope up and to the right.

A B C D E 29. From an ogive constructed for a particular set of data
(a) The original data can always be reconstructed exactly.
(b) The original data can always be approximated.
(c) The original data can never be approximated or reconstructed, but valid conclusions regarding the data can be drawn.
(d) None of these.
(e) (a) and (b) but not (c).

A B C D E 30. In constructing a frequency distribution for a sample, the number of classes depends on
(a) The number of data points.
(b) The range of the data collected.
(c) The size of the population.
(d) All of these.
(e) (a) and (b) but not (c).

A B C D E 31. Which of the following statements is true?
(a) The size of a sample can never be as large as the size of the population from which it is taken.
(b) Classes describe only one characteristic of the data being organized.
(c) As a rule statisticians generally use between 6 and 15 classes.
(d) All of these.
(e) (b) and (c) but not (a).

A B C D E 32. As a general rule, statisticians tend to use which of the following number of classes when arranging data?
(a) Fewer than five.
(b) Between one and five.
(c) More than 30.
(d) Between 20 and 25.
(e) None of these.

A B C D E 33. Which of these is NOT a test for usability of data?
(a) Source.
(b) Contradiction of other evidence.
(c) Missing evidence.
(d) Number of observations.
(e) None of these.

A B C D E 34. A relative frequency distribution presents frequencies in terms of
(a) Fractions.
(b) Whole numbers.
(c) Percentages.
(d) All of the above.
(e) Both (a) and (c).

A B C D E 35. Graphs of frequency distributions are used because
(a) They have a long history in practical applications.
(b) They attract attention to data patterns.
(c) They account for biased or incomplete data.
(d) They allow for easy estimates of values.
(e) Both (b) and (d).

A B C D 36. Continuous data are differentiated from discrete data in that
(a) Discrete data classes are represented by fractions.
(b) Continuous data classes may be represented by fractions.
(c) Continuous data take on only whole numbers.
(d) Discrete data can take on any real number.

37. Double counting is a result of _____ or _____ data.

38. It is found that 50 of 1,000 customers in a survey contain the relevant characteristics of all customers in the survey. The 50 customers are a _____ sample.

39. The _____ and the _____ are two methods of data arrangement.

40. A _____ is a collection of all the elements in a group. A collection of some, but not all, of these elements is a _____.

41. Dividing data points into similar classes and counting the number of observations in each class will give a _____ distribution.

42. If data can take on only a limited number of values, the classes of these data are called _____. Otherwise, the classes are called _____.

43. A relative frequency distribution presents frequencies in terms of _____ or _____.

44. A graph of a cumulative frequency distribution is called a _____.

45. If a collection of data is called a data set, a single observation would be called a _____.