Chapter 2: Summarizing Data: Frequency Distributions in Tables and Graphs

Test Bank

Multiple Choice

1. A simple frequency distribution
A. can be used to summarize grouped data.
B. can be used to summarize ungrouped data.
C. summarizes the frequency of scores in a given category or range.
D. all of these
Ans: D
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

2. To determine the interval width, we divide the _____ by the number of intervals.
A. observed range
B. exclusive range
C. real range
D. all of these
Ans: C
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

3. As a general rule, a simple frequency distribution should have between
A. 3 and 6 intervals.
B. 5 and 10 intervals.
C. 8 and 12 intervals.
D. 5 and 20 intervals.
Ans: D
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data

Difficulty Level: Easy

4. The three steps for constructing a simple frequency distribution are
A. find the observed range, find the interval width, and construct the frequency distribution.
B. find the real range, count the scores, and construct the frequency distribution.
C. find the real range, find the interval width, and construct the frequency distribution.
D. all of these
Ans: C
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

5. The range of scores in each interval of a grouped frequency distribution is called the
A. simple frequency.
B. interval width.
C. real range.
D. grouped data.
Ans: B
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

6. State the problem with this simple frequency distribution.

Intervals	Frequency
8–10	4
6–8	7
4–6	3
2–4	6
0–2	9

A. The interval width is too small.
B. The interval width is unequal.
C. The class intervals overlap.
D. The number of intervals is too small.
Ans: C
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Comprehension
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

7. A researcher distributes frequencies into the following intervals: 1-10, 11-20, 21-30, 31-40, 41-50, and 51 and above. What is wrong with this frequency distribution?
A. The interval width is too small.
B. The interval width is unequal.
C. The class intervals overlap.
D. One interval is an open class.
Ans: D
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Comprehension
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

8. A researcher distributes frequencies into the following intervals: 3–6, 7–10, 11–15, 16–18, 19–22, and 23–26. What is wrong with this frequency distribution?
A. The interval width is too small.
B. The interval width is unequal.
C. The first class interval does not begin at 0.
D. One interval is an open class.
Ans: B
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Comprehension
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

9. Fill in the missing values for A and B in this frequency distribution table:

Intervals	Frequency
6.0–6.6	12
5.3–5.9	7
4.6–5.2	**B**
3.9–4.5	10
A-3.8	8
	50

A. A = 3.2, B = 13
B. A = 3.1, B = 14
C. A = 3.3, B = 13
D. There is not enough information to complete this table.
Ans: A
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data
Cognitive Domain: Comprehension
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

10. Which of the following is NOT a rule for constructing a simple frequency distribution?
A. The number of intervals should equal the number of values measured.
B. Each interval is equidistant.
C. No class interval overlaps.
D. At least five class intervals are included.
Ans: A
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

11. A researcher distributes frequencies into the following classes: absent, tardy, present. What type of data are distributed?
A. nominal data
B. qualitative data
C. ungrouped data
D. all of these
Ans: D
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Comprehension
Answer Location: Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

12. Grouped data are to ungrouped data as
A. continuous is to discrete.
B. qualitative is to quantitative.
C. inferential is to descriptive.
D. descriptive is to inferential.
Ans: A
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

13. Ungrouped data can be distributed as
A. intervals.
B. categories.
C. upper and lower boundaries.
D. all of these.
Ans: B
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

14. Grouped data can be distributed
A. as a range of values.
B. with upper and lower boundaries.
C. into intervals.
D. all of these.
Ans: D
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

15. A researcher summarizes a set of frequency data into five intervals. This is an example of a frequency distribution for
A. ungrouped data.
B. grouped data.
C. inferential statistics.
D. population parameters.
Ans: B
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

16. Grouped data are distributed into _____, whereas ungrouped data are distributed into _____.
A. intervals; statistics
B. statistics; intervals
C. intervals; categories
D. categories; intervals
Ans: C
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data | Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

17. The following frequency distribution is an example of

Household TVs	$f(x)$
5	4
4	23
3	20
2	29
1	30

0 8

A. grouped data.
B. ungrouped data.
C. categorical data.
D. ungrouped data and categorical data.
Ans: B
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Comprehension
Answer Location: Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

18. Which of the following requires the calculation of a real range?
A. frequency distributions for categorical
B. frequency distributions for ungrouped data
C. frequency distributions for grouped data
D. frequency distributions that do not use real data
Ans: C
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

19. When cumulating frequencies from the bottom up, the data are discussed in terms of
A. at most.
B. less than.
C. at or below.
D. all of these.
Ans: D
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge
Answer Location: Cumulative Frequency
Difficulty Level: Easy

20. When cumulating frequencies from the top down, the data are discussed in terms of
A. greater than.
B. at or above.
C. at least.
D. all of these.
Ans: D
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge

Answer Location: Cumulative Frequency
Difficulty Level: Easy

21. A researcher wants to determine how many participants will take less than 24 s to complete a cognitive performance task. If he constructs a frequency distribution for these data, what type of distribution would be most appropriate to answer his question?
A. a simple frequency distribution
B. a relative frequency distribution
C. a cumulative frequency distribution from the bottom up
D. a cumulative frequency distribution from the top down
Ans: C
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Comprehension
Answer Location: Cumulative Frequency
Difficulty Level: Easy

22. A psychologist wants to know how many of her clients continue with therapy for *at least* 12 days. If she constructs a frequency distribution for these data, what type of distribution would be most appropriate to answer her question?
A. a cumulative frequency distribution from the bottom up
B. a cumulative frequency distribution from the top down
C. a simple frequency distribution
D. a relative frequency distribution
Ans: B
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Comprehension
Answer Location: Cumulative Frequency
Difficulty Level: Easy

23. The sum of relative frequencies for each interval is _____.
A. 1.00
B. 100%
C. equal to the total number of scores in a distribution
D. both 1.00 and 100%
Ans: A
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge
Answer Location: Relative Frequency
Difficulty Level: Easy

24. A relative frequency distribution is appropriate when
A. there are large frequency counts in each interval.
B. the data are grouped into relatively small intervals.
C. there are open classes.
D. the interval width is too large.
Ans: A
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge
Answer Location: Relative Frequency
Difficulty Level: Easy

25. A researcher finds that 12 persons in a sample of 60 reported getting between 4 and 6 hr of sleep per night. What is the relative percentage for this interval?
A. 24%
B. 22%
C. 20%
D. There is not enough information to answer this question.
Ans: C
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Application
Answer Location: Relative Percent
Difficulty Level: Medium

26. The following is a simple frequency distribution table. Suppose we convert this table to a cumulative frequency distribution. The frequencies in each interval of the cumulative frequency distribution would be

Intervals	Frequency
17–20	5
13–16	3
9–12	2
5–8	4
1–4	6
	20

A. 5, 8, 10, 14, and 20 (top down summary).
B. 6, 10, 12, 15, and 20 (bottom up summary).
C. both 5, 8, 10, 14, and 20 (top down summary) and 6, 10, 12, 15, and 20 (bottom up summary), depending on how the data were summarized.
D. it is not possible to summarize the data using a cumulative frequency distribution.
Ans: C
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.

Cognitive Domain: Application
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Medium

27. The following is a simple frequency distribution table. If we convert this frequency distribution to relative percentages, which of the following gives the corresponding relative percentages in each interval?

Intervals	Frequency
44–46	6
41–43	4
38–40	5
35–37	10
32–34	5
	30

A. 20%, 33%, 50%, 67%, and 100%
B. 0.2, 0.13, 0.17, 0.33, and 0.17
C. 20%, 13%, 17%, 33%, and 17%
D. 6, 10, 15, 25, and 30
Ans: C
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Application
Answer Location: Relative Percent
Difficulty Level: Medium

28. A cumulative percentage summary that indicates the percentage of scores at or below a given value is called a
A. relative percentage.
B. relative frequency.
C. percentile rank.
D. cumulative frequency.
Ans: C
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

29. A researcher finds that 12% of participants make between three and five visits to a physician each year. What are the real limits for this interval?
A. 3–5
B. 2.5–5.5
C. 2.5–3.5
D. equal to the sum of the products for the previous interval
Ans: B

Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Application
Answer Location: Graphing Distributions: Continuous Data
Difficulty Level: Easy

30. What is the percentile point at the 80th percentile in the following distribution?

Frequency	Percentile Rank
9–11	100%
6–8	80%
3–5	40%
0–2	20%

A. 2
B. 6
C. 7
D. 8
Ans: D
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Application
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

31. What is the percentile point at the 90th percentile in the following distribution?

Frequency	Percentile Rank
9–11	100%
6–8	80%
3–5	40%
0–2	20%

A. 9
B. 10
C. 9.5
D. 10.5
Ans: B
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Application
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

32. A percentile is also called a:
A. score.
B. range.

C. distribution.
D. percentile point.
Ans: D
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

33. A percentile point is
A. the value of a score on a measurement scale below which a specified percentage of scores in a distribution falls.
B. a summary display that distributes the sum of percentages across a series of intervals.
C. an interval with no defined upper or lower boundary.
D. the range of values contained in each interval of a grouped frequency distribution.
Ans: A
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

34. The _____ is the percentage of scores with values that fall below a specified score in a distribution.
A. percentile rank
B. interval
C. relative frequency
D. percentile point
Ans: A
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

35. A percentile is
A. a percentile point.
B. a value between –1 and +1.
C. a raw score multiplied times 100.
D. only used with ungrouped data.
Ans: A
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent

Difficulty Level: Easy

36. What is the corresponding percentile of a percentile point?
A. the score
B. the frequency
C. the percentile rank
D. always 100%
Ans: C
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

37. A student scores in the 80th percentile on an exam. What does this mean in comparison to all other students?
A. The student scored higher than 80% of all others who took the exam.
B. The student scored worse than 80% of all others who took the exam.
C. Of all those who took the exam, only 80% of them completed it.
D. The student would score the same grade on the exam 80% of the time.
Ans: A
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Comprehension
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

38. What is the percentile point at the 50th percentile for the following distribution?

Intervals	Frequency
31–35	9
26–30	11
21–25	12
16–20	8

A. 21
B. 23.5
C. 25
D. 25.5
Ans: C
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Comprehension
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

39. A graphical display for grouped frequency distributions with continuous data is called a

A. histogram.
B. bar chart.
C. pie chart.
D. scatter gram.
Ans: A
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Histograms
Difficulty Level: Easy

40. A _____ is plotted at the midpoint of each interval, whereas a(n) _____ is plotted at the upper boundary of each interval.
A. histogram; bar chart
B. frequency polygon; histogram
C. frequency polygon; ogive
D. histogram; frequency polygon
Ans: C
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Frequency Polygon
Difficulty Level: Easy

41. A researcher measures the time (in seconds) it takes children to complete a basic reading skills task. What type of graphical display would be most appropriate for summarizing the frequency of children falling into different intervals of time?
A. histogram
B. bar chart
C. scatter gram
D. all of these
Ans: A
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Comprehension
Answer Location: Histograms
Difficulty Level: Easy

42. A researcher measures the weight (in ounces) of newborn infants in the month of March. What type of graphical display would be most appropriate for summarizing the frequency of infants falling into different intervals of weight?
A. histogram
B. bar chart
C. scatter gram
D. all of these
Ans: A
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Comprehension
Answer Location: Histograms

Difficulty Level: Easy

43. Which of the following is a type of graphical display used to summarize quantitative, continuous data?
A. histogram
B. frequency polygon
C. ogive
D. all of these
Ans: D
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Continuous Data
Difficulty Level: Easy

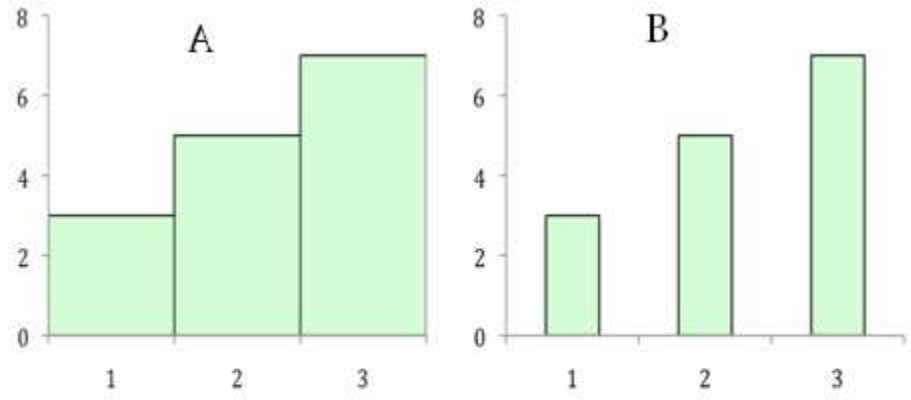
44. In the stem-and-leaf display, each number to the right of the vertical line is referred to as a _____; the numbers to the left of the vertical line are called the _____.
A. stem; leaf
B. leaf; stem
C. digit; place
D. place; digit
Ans: B
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Stem-and-Leaf Displays
Difficulty Level: Easy

45. State the original data displayed in the following stem-and-leaf display.

3	2	3	6
4	7	8	8
5	4	9	

A. 3, 2, 3, 6, 4, 7, 8, 8, 5, 4, and 9
B. 32, 33, 36, 47, 48, 54, and 59
C. 32, 33, 36, 47, 48, 48, 54, and 59
D. It is not possible to know the original data from this display.
Ans: C
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Comprehension
Answer Location: Stem-and-Leaf Displays
Difficulty Level: Medium

46. State the type of graphical display for Graph A and Graph B.



A. A is a bar chart; B is a histogram.
B. B is a bar chart; A is a histogram.
C. Both graphs are bar charts.
D. Both graphs are histograms.
Ans: B
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Comprehension
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy

47. Which of the following is a type of graphical display used to summarize qualitative, discrete data?
A. bar chart
B. pie chart
C. histogram
D. both bar chart and pie chart
Ans: D
Learning Objective: 2-7: Construct frequency distributions for quantitative and categorical data using SPSS.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy

48. A researcher records the number of children at a local school from married-, divorced-, and single-parent homes. This frequency data would be best displayed as a(n)
A. bar chart.
B. frequency polygon.
C. histogram.
D. ogive.
Ans: A

Learning Objective: 2-7: Construct frequency distributions for quantitative and categorical data using SPSS.
Cognitive Domain: Comprehension
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy

49. Bar charts are a lot like histograms, *except*
A. the bars displayed in the graph do not touch.
B. the bar chart summarizes quantitative data.
C. the bar chart summarizes continuous data.
D. all of these.
Ans: A
Learning Objective: 2-7: Construct frequency distributions for quantitative and categorical data using SPSS.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy

50. To construct a pie chart, first distribute the data as
A. cumulative percentages.
B. relative percentages.
C. cumulative frequencies.
D. cumulative relative percentages.
Ans: B
Learning Objective: 2-7: Construct frequency distributions for quantitative and categorical data using SPSS.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy

True/False

1. Summarizing data in a table or graph can make it easier to see patterns in the data.
Ans: T
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

2. Frequency distributions summarize the average scores in a set of data.
Ans: F
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.

Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

3. The real range is the difference between the largest value and the smallest value in a data set.
Ans: F
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

4. The midpoint of a given interval is the average of the upper and lower boundaries for that interval.
Ans: T
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

5. An open class is permitted when outliers exist in the data.
Ans: F
Learning Objective: 2-1: Construct a simple frequency distribution for grouped and ungrouped data.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

6. Ungrouped data are always distributed in intervals.
Ans: F
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

7. Grouped data are used to summarize quantitative data that are continuous or discrete.
Ans: T
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data
Difficulty Level: Easy

8. Frequency distributions can be used to summarize both grouped and ungrouped data.
Ans: T
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Knowledge
Answer Location: Frequency Distributions for Grouped Data | Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

9. The data should be grouped for the following data set: 0, 0, 0, 2, 2, 1, 1, 2, 2, 2, 1, 0, 0, 0, 0, 2, 2, 1, 1, 1, 2, 1, 2, 2, 0, 0, 1, and 2.
Ans: F
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Comprehension
Answer Location: Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

10.The data should be ungrouped for the following data set: 6, 7, 7, 7, 7, 7, 7, 8, 8, 8, 9, 9, 9, 6, 6, 6, 8, and 7.
Ans: T
Learning Objective: 2-2: Determine whether data should be grouped or ungrouped.
Cognitive Domain: Comprehension
Answer Location: Frequency Distributions for Ungrouped Data
Difficulty Level: Easy

11. The sum of the frequencies for a distribution is 100. This means that fewer than 100 persons were counted.
Ans: F
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Comprehension
Answer Location: Cumulative Frequency
Difficulty Level: Easy

12. A cumulative frequency distribution is the sum of frequencies across a series of intervals.
Ans: T
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge
Answer Location: Cumulative Frequency
Difficulty Level: Easy

13. A relative frequency is typically used with smaller, but not larger, data sets.

Ans: F
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge
Answer Location: Relative Frequency
Difficulty Level: Easy

14. Whether you cumulate a frequency distribution from the bottom up or the top down depends on how you want to discuss the data.
Ans: T
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge
Answer Location: Cumulative Frequency
Difficulty Level: Easy

15. Relative frequencies sum to the total frequency count.
Ans: F
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge
Answer Location: Relative Frequency
Difficulty Level: Easy

16. Percentages range from 0% to 100% and can never be negative.
Ans: T
Learning Objective: 2-3: Identify when it is appropriate to distribute the cumulative frequency, relative frequency, relative percent, cumulative relative frequency, and cumulative percent.
Cognitive Domain: Knowledge
Answer Location: Relative Percent
Difficulty Level: Easy

17. Twelve percent of students scored at or below a failing grade on an exam. A percentile rank distribution would be appropriate to summarize this outcome.
Ans: T
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Comprehension
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Medium

18. A percentile rank is a cumulative percentage distribution summed from the bottom up.
Ans: T
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

19. The corresponding percentile of a given percentile point is the percentile rank of that score.
Ans: T
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

20. The percentile rank of a score is the percentage of scores with values that fall below a specified score in a distribution.
Ans: T
Learning Objective: 2-5: Construct and interpret graphs for distributions of continuous data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

21. A histogram is basically a bar chart in which the bars do not touch.
Ans: F
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Continuous Data
Difficulty Level: Easy

22. A histogram is used to summarize grouped data.
Ans: T
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Continuous Data
Difficulty Level: Easy

23. A frequency polygon is a dot-and-line graph where the dot is the upper class boundary of each interval and the line connects each dot.
Ans: F
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Comprehension

Answer Location: Graphing Distributions: Continuous Data
Difficulty Level: Easy

24. Cumulative percent data can be summarized using an ogive.
Ans: T
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Cumulative Relative Frequency and Cumulative Percent
Difficulty Level: Easy

25. A frequency polygon, but not an ogive, can be used to summarize cumulative percent distributions.
Ans: F
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Continuous Data
Difficulty Level: Easy

26. A stem-and-leaf display retains the value of each data point.
Ans: T
Learning Objective: 2-6: Construct and interpret graphs for distributions of discrete data.
Cognitive Domain: Knowledge
Answer Location: Stem-and-Leaf Displays
Difficulty Level: Easy

27. In a bar chart, each class or category is represented by a rectangle and each rectangle is separated (does not touch) along the *x*-axis.
Ans: T
Learning Objective: 2-7: Construct frequency distributions for quantitative and categorical data using SPSS.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy

28. A circular graph that displays the relative percentage of a frequency distribution into sectors is called a scatter gram.
Ans: F
Learning Objective: 2-7: Construct frequency distributions for quantitative and categorical data using SPSS.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy

29. Bar charts are used to summarize discrete and categorical data.
Ans: T

Learning Objective: 2-7: Construct frequency distributions for quantitative and categorical data using SPSS.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy

30. To summarize relative percent data, a pie chart can be a good choice to display the data.
Ans: T
Learning Objective: 2-7: Construct frequency distributions for quantitative and categorical data using SPSS.
Cognitive Domain: Knowledge
Answer Location: Graphing Distributions: Discrete and Categorical Data
Difficulty Level: Easy