# https://selldocx.com/products /test-bank-essentials-of-statistics-for-the-behavioral-sciences-9e-gravetter

# Test Bank

#### **MULTIPLE CHOICE**

| 1. | What is the total number of a. 4 b. 10 c. 14 d. 37                      | <del>-</del>           | distribution shown in the following table? $\frac{X \text{ f}}{4 \text{ 3}}$ $\frac{5}{5 \text{ 2}}$ $\frac{4}{1 \text{ 2}}$          |
|----|---|------------------------|---|
|    | ANS: C<br>Tables  | REF: 2<br>KEY: Bloom's | 2.1 Frequency Distributions and Frequency Distribution s: Understand  |
| 2. | -   | ribution table, h      | nigh of $X = 11$ to a low of $X = 3$ . If these scores are ow many $X$ values will be listed in the first column? e a zero frequency. |
|    | ANS: B<br>Tables  | REF: 2<br>KEY: Bloom's | 2.1 Frequency Distributions and Frequency Distribution s: Understand  |
| 3. | For the following data, N a. 10 b. 11 c. 28 d. Cannot be determined     |                        | $\frac{X}{4} \frac{f}{2}$ 3 4 2 3 1 2   |
|    | ANS: B<br>Tables  | REF: Z                 | 2.1 Frequency Distributions and Frequency Distribution s: Understand  |
| 4. | For the data in the following a. 10 b. 15 c. 20 d. Cannot be determined |                        | s the value of $\Sigma X$ ? $\frac{X}{4} \frac{f}{1}$ $\frac{1}{3} \frac{2}{2}$ $\frac{1}{2} \frac{1}{2}$                             |
|    | ANS: C<br>Tables  | REF: 2<br>KEY: Bloom's | 2.1 Frequency Distributions and Frequency Distribution s: Understand  |

| 5. | For the scores in the followa. 30 b. 41 c. 65 d. 225                         | wing table, what is the value of $\Sigma X^2$ ? $\frac{X}{4}  \frac{f}{1}$ $\frac{1}{3}  \frac{2}{2}$ $\frac{1}{1}  \frac{1}{3}$   |
|----|--|--|
|    | ANS: B<br>Tables   | REF: 2.1 Frequency Distributions and Frequency Distribution KEY: Bloom's: Understand   |
| 6. | For the following frequence a. 5 b. 15 c. 21 d. Cannot be determined         | by distribution of quiz scores, how many individuals took the quiz? $\frac{X}{5} = \frac{f}{5}$ 4 5 3 5 2 3 1 2  |
|    | ANS: C<br>Tables   | REF: 2.1 Frequency Distributions and Frequency Distribution KEY: Bloom's: Understand   |
| 7. | For the following distributions grade, how many individua. 2 b. 3 c. 5 d. 10 | ion of quiz scores, if a score of $X = 3$ or higher is needed for a passing als failed the quiz? $\begin{array}{c c} X & f \\ \hline 5 & 6 \\ 4 & 5 \\ 3 & 5 \\ 2 & 3 \\ 1 & 2 \\ \end{array}$ |
|    | ANS: C<br>Tables   | REF: 2.1 Frequency Distributions and Frequency Distribution KEY: Bloom's: Understand   |
| 8. | For the following distributa. 1 b. 3 c. 5 d. Cannot be determined            | ion of quiz scores, how many individuals had a score of $X = 2$ ? $\frac{X}{5}$ $\frac{f}{6}$ $\frac{4}{5}$ $\frac{5}{3}$ $\frac{5}{2}$ $\frac{3}{1}$ $\frac{5}{2}$                            |

REF:

ANS: B

2.1 Frequency Distributions and Frequency Distribution

KEY: Bloom's: Understand

9. For the following distribution, what percentage of the individuals have scores of X = 1?

| a. | 2%  | <u>X</u> | <u>f</u> |
|----|-----|----------|----------|
| b. | 5%  | 5        | 2        |
| c. | 10% | 4        | 8        |
| d. | 20% | 3        | 5        |
|    |     | 2        | 3        |

ANS: C REF: 2.1 Frequency Distribution and Frequency Distribution

Tables KEY: Bloom's: Understand

1 2

10. A researcher surveys a sample of n = 200 college students and asks each person to identify his or her favorite movie from the past year. If the data were organized in a frequency distribution table, what would be listed in the first column?

a. A list of movies

c. A list of frequencies

b. A list of students

d. None of the other options is correct

ANS: A REF: 2.1 Frequency Distributions and Frequency Distribution Tables KEY: Bloom's: Apply

11. A set of scores ranges from a high of X = 72 to a low of X = 28. If these scores were put in a grouped frequency distribution table, what would be the best choice for the interval width?

a. 2 points

c. 7 points

b. 5 points

d. 10 points

ANS: B REF: 2.2 Grouped Frequency Distribution Tables KEY:

Bloom's: Apply

12. A set of scores ranges from a high of X = 24 to a low of X = 5. If these scores were put in a frequency distribution table with an interval width of 2 points, which of the following would be the top interval in the table?

a. 4-5

c. 24-25

b. 23-24

d. 22-24

ANS: C REF: 2.2 Grouped Frequency Distribution Tables KEY:

Bloom's: Apply

13. A set of scores ranges from a high of X = 96 to a low of X = 11. If these scores were placed in a grouped frequency distribution table, what is the best value for the interval width?

a. 5 points

c. 9 points

b. 8 points

d. 10 points

ANS: D

REF: 2.2 Grouped Frequency Distribution Tables

KEY:

Bloom's: Apply

14. A biologist records the number of trout, bass, perch, and other types of fish caught in a local lake during a 2-week period. If the results are organized in a frequency distribution table, what values would be listed in the first column?

a. Frequencies

c. The 14 days

b. Different types of fish

d. The days of the week

ANS: B

REF:

2.1 Frequency Distributions and Frequency Distribution

Tables KEY: Bloom's: Apply

15. For the following frequency distribution, what is  $\Sigma X$ ?

a. 8

30-34 1

b. 90 c. 110

25-29 1

d. Cannot be determined 20-24 3

15-19 2

10-14 1

ANS: D

REF: 2.2 Grouped Frequency Distribution Tables

KEY:

Bloom's: Understand

16. For the following frequency distribution of exam scores, how many students had scores higher than X = 79?

a. 7

X90-94 3

b. 12

85-89 4

c. 19

80-84 5

d. Cannot be determined

75-79 2

70-74 1

ANS: B

REF: 2.2 Grouped Frequency Distribution Tables

KEY:

Bloom's: Understand

17. For the following frequency distribution of exam scores, what is the lowest score on the exam?

a. X = 70

Xf 3 90-94

b. X = 74

85-89 4

c. X = 90

5 80-84

d. Cannot be determined

75-79 2

KEY:

Bloom's: Understand

18. For the following frequency distribution of exam scores, how many students had scores lower

than 
$$X = 80$$
?  $X = \frac{f}{90-94}$  a. 2 90-94 3 85-89 4

Bloom's: Understand

19. In a grouped frequency distribution, one interval is listed as 50-59. Assuming that the scores are measuring a continuous variable, what are the real limits for this interval?

KEY:

Bloom's: Apply

20. For the following distribution, how many people had scores less than X = 19?

Bloom's: Understand

21. For the following distribution, what is the highest score?

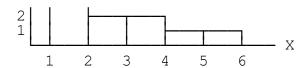
Bloom's: Understand

22. For the following distribution, how many people have scores greater than X = 14?

|     | c. 7 15-19 5<br>d. 11 10-14 4<br>5-9 1  |    |
|-----|---|----|
|     | ANS: C REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Understand  |    |
| 23. | For the following distribution, what is the width of each class interval?  a. 4  b. 4.5  c. 5  d. 10 $ \frac{X}{20-24} \frac{f}{2} $ 15-19  10-14  5-9  1   |    |
|     | ANS: C REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Understand  |    |
| 24. | If the following distribution were shown in a histogram, the width of the bar above the 15- interval would reach from to  a. $X = 14.5$ to $X = 19.5$ $X = 18.5$ b. $X = 15.5$ to $X = 18.5$ $X = 18.5$ c. $X = 15.5$ to $X = 19.5$ $X = 19.5$ d. $X = 15.0$ to $X = 19.0$ $X = $ | 19 |
|     | ANS: A REF: 2.3 Frequency Distribution Graphs KEY: Bloom's Apply  |    |
| 25. | In a frequency distribution graph, frequencies are presented on the, and the scores (categories) are listed on the  a. X axis; Y axis  b. horizontal line; vertical line  Care Reference as Distribution Care Reference as NEW, Place 2.2   |    |
|     | ANS: C REF: 2.3 Frequency Distribution Graphs KEY: Bloom's Remember   |    |
| 26. | Which types of graphs are used for data from an interval scale?  a. Histograms and bar graphs  b. Polygons and bar graphs  c. Histograms and polygons  d. Histograms, bar graphs, and polygons  |    |
|     | ANS: C REF: 2.3 Frequency Distribution Graphs KEY: Bloom's Understand   |    |
| 27. | What frequency distribution graph is appropriate for scores measured on a nominal scale?  a. Only a histogram  c. Either a histogram or a polygon  b. Only a polygon  d. Only a bar graph   |    |

| 28. If a distribution of scores is shown in a bar graph, you know that the scores were measured on a(n) scale of measurement.  a. nominal or ordinal  |     | ANS: D<br>Understand   | REF: 2.3 Frequency                           | Distı                      | ribution Graphs  | KEY: Bloom's:   |
|---|-----|--|--|----------------------------|--|---|
| Apply  29. A researcher surveys a sample of <i>n</i> = 200 college students and asks each person to identify his her favorite movie from the past year. If the results were presented in a frequency distribution graph, what kind of graph would be appropriate?  a. A histogram  c. A histogram or a polygon  b. A polygon  d. A bar graph  ANS: D  REF: 2.3 Frequency Distribution Graphs  KEY: Bloom's: Apply  30. A researcher collects a sample of <i>n</i> = 20 Introductory Psychology textbooks and records the number of pages in each book. The results are then placed in a grouped frequency distribution table using intervals of 0-99 pages, 100-199 pages, 200-299 pages, and so on. If the results we converted into a frequency distribution graph, what kind of graph should be used?  a. A bar graph  c. A polygon  b. A histogram  d. Either a histogram or a polygon  ANS: D  REF: 2.3 Frequency Distribution Graphs  KEY: Bloom's: Apply  31. A biologist records the number of trout, bass, perch, and other types of fish caught in a local le during a 2-week period. If the results are organized in a frequency distribution graph, what kind of graph should be used?  a. A bar graph  c. A polygon  b. A histogram  d. Either a histogram or a polygon  ANS: A pagraph  c. A polygon  d. Either a histogram or a polygon  kEY: Bloom's: Apply  32. After recording the final grade (A, B, C, D, F) for each individual in a class of <i>N</i> = 26 students | 28. | a(n) sca<br>a. nominal or ordi   | ale of measurement.                          | c.                         | interval or ratio  | es were measured on   |
| her favorite movie from the past year. If the results were presented in a frequency distribution graph, what kind of graph would be appropriate?  a. A histogram  b. A polygon  c. A histogram or a polygon  d. A bar graph  ANS: D  REF: 2.3 Frequency Distribution Graphs  Apply  30. A researcher collects a sample of n = 20 Introductory Psychology textbooks and records the number of pages in each book. The results are then placed in a grouped frequency distribution table using intervals of 0-99 pages, 100-199 pages, 200-299 pages, and so on. If the results we converted into a frequency distribution graph, what kind of graph should be used?  a. A bar graph  c. A polygon  b. A histogram  d. Either a histogram or a polygon  ANS: D  REF: 2.3 Frequency Distribution Graphs  KEY: Bloom's: Apply  31. A biologist records the number of trout, bass, perch, and other types of fish caught in a local leduring a 2-week period. If the results are organized in a frequency distribution graph, what kirt of graph should be used?  a. A bar graph  c. A polygon  b. A histogram  c. A polygon  d. Either a histogram or a polygon  ANS: A REF: 2.3 Frequency Distribution Graphs  KEY: Bloom's: Apply  ANS: A REF: 2.3 Frequency Distribution Graphs  ANS: A REF: 2.3 Frequency Distribution Graphs  APPLY  32. After recording the final grade (A, B, C, D, F) for each individual in a class of N = 26 students   |     |  | REF: 2.3 Frequency                           | Distı                      | ribution Graphs  | KEY: Bloom's:   |
| Apply  30. A researcher collects a sample of <i>n</i> = 20 Introductory Psychology textbooks and records the number of pages in each book. The results are then placed in a grouped frequency distribution table using intervals of 0-99 pages, 100-199 pages, 200-299 pages, and so on. If the results we converted into a frequency distribution graph, what kind of graph should be used?  a. A bar graph  b. A histogram  c. A polygon  d. Either a histogram or a polygon  ANS: D  REF: 2.3 Frequency Distribution Graphs  KEY: Bloom's: Apply  31. A biologist records the number of trout, bass, perch, and other types of fish caught in a local laduring a 2-week period. If the results are organized in a frequency distribution graph, what kind of graph should be used?  a. A bar graph  c. A polygon  b. A histogram  d. Either a histogram or a polygon  ANS: A  REF: 2.3 Frequency Distribution Graphs  KEY: Bloom's:  Apply  32. After recording the final grade (A, B, C, D, F) for each individual in a class of N = 26 students  | 29. | her favorite movie graph, what kind of a. A histogram                                | from the past year. If the                   | ne res<br>priat<br>c.      | sults were presented in a free?  A histogram or a polygon  | equency distribution  |
| number of pages in each book. The results are then placed in a grouped frequency distribution table using intervals of 0-99 pages, 100-199 pages, 200-299 pages, and so on. If the results we converted into a frequency distribution graph, what kind of graph should be used?  a. A bar graph  b. A histogram  c. A polygon  d. Either a histogram or a polygon  ANS: D  REF: 2.3 Frequency Distribution Graphs  KEY: Bloom's: Apply  31. A biologist records the number of trout, bass, perch, and other types of fish caught in a local laduring a 2-week period. If the results are organized in a frequency distribution graph, what kir of graph should be used?  a. A bar graph  c. A polygon  b. A histogram  d. Either a histogram or a polygon  ANS: A REF: 2.3 Frequency Distribution Graphs  KEY: Bloom's: Apply  32. After recording the final grade (A, B, C, D, F) for each individual in a class of N = 26 students  |     |  | REF: 2.3 Frequency                           | Disti                      | ribution Graphs  | KEY: Bloom's:   |
| Apply  31. A biologist records the number of trout, bass, perch, and other types of fish caught in a local la during a 2-week period. If the results are organized in a frequency distribution graph, what kir of graph should be used?  a. A bar graph  b. A histogram  c. A polygon  d. Either a histogram or a polygon  ANS: A  Apply  32. After recording the final grade (A, B, C, D, F) for each individual in a class of N = 26 students   | 30. | number of pages in<br>table using interval<br>converted into a fre<br>a. A bar graph | each book. The results of 0-99 pages, 100-19 | are<br>99 pa<br>aph,<br>c. | then placed in a grouped frages, 200-299 pages, and so<br>what kind of graph should<br>A polygon | equency distribution<br>on. If the results were<br>be used? |
| during a 2-week period. If the results are organized in a frequency distribution graph, what kir of graph should be used?  a. A bar graph  b. A histogram  c. A polygon  d. Either a histogram or a polygon  ANS: A REF: 2.3 Frequency Distribution Graphs  Apply  32. After recording the final grade (A, B, C, D, F) for each individual in a class of N = 26 students  |     |  | REF: 2.3 Frequency                           | Distı                      | ribution Graphs  | KEY: Bloom's:   |
| Apply  32. After recording the final grade (A, B, C, D, F) for each individual in a class of $N = 26$ students  | 31. | during a 2-week pe<br>of graph should be<br>a. A bar graph                           | riod. If the results are o                   | organ<br>c.                | nized in a frequency distributed A polygon   | ution graph, what kind                                      |
|   |     |  | REF: 2.3 Frequency                           | Disti                      | ribution Graphs  | KEY: Bloom's:   |
| the professor would like to display the grade distribution in a frequency distribution graph. While kind of graph should be used?   | 32. | the professor would kind of graph should   | d like to display the gra                    | . ,                        |  |   |
| a. A bar graph c. A polygon b. A histogram d. Either a histogram or a polygon   |     |  |  |                            |  | alvaan  |

|     | ANS: A<br>Apply   | REF: 2.3 Frequency I                                | Distı   | ribution Graphs  | KEY: Bloom's:         |
|-----|---|---|---------|--|-----------------------|
| 33. | What kind of frequadjacent bars?  a. A bar graph  b. A histogram      | ency distribution graph                             | c.      | ws the frequencies as bars,  A polygon All of these  | with no space between |
|     | ANS: B<br>Remember  | REF: 2.3 Frequency I                                | Disti   | ribution Graphs  | KEY: Bloom's:         |
| 34. | If a set of scores is was used to measura. Nominal or ord b. Interval | re the scores?                                      | c.      | stribution polygon, what sc<br>Ratio<br>Interval or ratio                                      | ale of measurement    |
|     | ANS: D<br>Understand  | REF: 2.3 Frequency I                                | Disti   | ribution Graphs  | KEY: Bloom's:         |
| 35. |   | oution graph represents f<br>f measurement was used | d to c. | uencies with vertical bars w<br>measure the scores?<br>Nominal or ordinal<br>Interval or ratio | vithout space between |
|     | ANS: D<br>Apply   | REF: 2.3 Frequency I                                | Disti   | ribution Graphs  | KEY: Bloom's:         |
| 36. | If a set of scores is was used to measura. Nominal b. Ordinal         |   | c.      | stribution bar graph, what s<br>Nominal or ordinal<br>Interval or ratio                        | scale of measurement  |
|     | ANS: C<br>Apply   | REF: 2.3 Frequency I                                |         |  | KEY: Bloom's:         |
| 37. | What kind of frequespaces?  a. A bar graph  b. A histogram            | ency distribution graph                             | c.      | ws the frequencies as bars t<br>A polygon<br>All of these                                      | that are separated by |
|     | ANS: A<br>Remember  | REF: 2.3 Frequency I                                | Disti   | ribution Graphs  | KEY: Bloom's:         |
| 38. | How many individu   | ual scores are in the foll                          | owi     | ng distribution?   |                       |



a. 
$$N = 5$$

c. 
$$N = 10$$

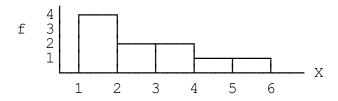
b. 
$$N = 6$$

d. cannot be determined

ANS: C Understand REF: 2.3 Frequency Distribution Graphs

KEY: Bloom's:

39. For the following distribution, what is  $\Sigma X$ ?



a. 
$$\Sigma X = 10$$

c. 
$$\Sigma X = 21$$

b. 
$$\Sigma X = 15$$

d. 
$$\Sigma X = 23$$

ANS: D

REF: 2.3 Frequency Distribution Graphs

KEY: Bloom's:

Understand

40. The normal distribution is an example of

- a. a histogram showing data from a sample.
- b. a polygon showing data from a sample.
- c. a bar graph showing data from a population.
- d. a smooth curve showing data from a population.

ANS: D

REF: 2.3 Frequency Distribution Graphs

KEY: Bloom's:

Understand

41. If a set of exam scores forms a symmetrical distribution, what can you likely conclude about the students' scores?

- a. Most of the students had relatively high scores.
- b. Most of the students had relatively low scores.
- c. About an equal number of students had relatively high and relatively low scores.
- d. It is not possible to draw any conclusions about students' scores.

ANS: C

REF:

2.3 Frequency Distribution Graphs

KEY:

Bloom's: Apply

42. If a set of exam scores forms a negatively skewed distribution, what can you likely conclude about the students' scores?

a. Most of the students had relatively high scores.

|     | -  | er of students  | low scores. had relatively high and relatively low scores. usions about students' scores.                               |           |
|-----|--|-----------------|---|-----------|
|     | ANS: A<br>Bloom's: Apply   | REF:            | 2.3 Frequency Distribution Graphs   | KEY:      |
| 43. | What term is used to describe hand side of the graph and a. Symmetrical b. Positively skewed |                 | e of a distribution in which the scores pile up on the the right?  c. Negatively skewed d. Normal                       | ie left-  |
|     | ANS: B<br>Bloom's: Apply   | REF:            | 2.3 Frequency Distribution Graphs   | KEY:      |
| 44. | A skewed distribution typa. 1; 1b. 1; 2  | pically has     | tail(s) and a normal distribution has tail(s) c. 2; 1 d. 2; 2   | s).       |
|     | ANS: B<br>Bloom's: Remember  | REF:            | 2.3 Frequency Distribution Graphs   | KEY:      |
| 45. | ± •  |                 | ned to think that the midterm exam was very easy be for the distribution of exam scores? c. Negatively skewed d. Normal | . If they |
|     | ANS: C<br>Bloom's: Apply   | REF:            | 2.3 Frequency Distribution Graphs   | KEY:      |
| 46. | a. on the right side of th   | e distribution  | c. in the middle of the distribution d. represented at two distinct peaks   |           |
|     | ANS: B<br>Bloom's: Understand  | REF:            | 2.3 Frequency Distribution Graphs   | KEY:      |
| 47. | What is the shape of the 6 5, 5, 6 a. Symmetrical b. Positively skewed                       | distribution fo | r the following set of data? Scores: 1, 2, 3, 3, 4, 4,  c. Negatively skewed d. Normal                                  | 4 5, 5,   |
|     | ANS: C<br>Bloom's: Apply   | REF:            | 2.3 Frequency Distribution Graphs   | KEY:      |
| 48. | What is the shape of the   | distribution fo | r the following set of data?  |           |

| a. | Symmetrical       | <u>X</u> | <u>f</u> |
|----|-------------------|----------|----------|
| b. | Positively skewed | 5        | 1        |
|    | Negatively skewed | 4        | 1        |
| d. | Normal            | 3        | 2        |
|    |                   | 2        | 4        |
|    |                   | 1        | 5        |

ANS: B REF: 2.3 Frequency Distribution Graphs KEY:

Bloom's: Apply

49. What is the shape of the distribution for the following set of data?

| a. | Symmetrical       | <u>X</u> | <u>f</u> |
|----|-------------------|----------|----------|
| b. | Positively skewed | 5        | 5        |
| c. | Negatively skewed | 4        | 3        |
| d. | Normal            | 3        | 1        |
|    |                   | 2        | 3        |
|    |                   | 1        | 5        |

ANS: A REF: 2.3 Frequency Distribution Graphs KEY:

Bloom's: Apply

#### TRUE/FALSE

1. A researcher surveys a sample of n = 200 college students and asks each person to identify his or her favorite movie from the past year. If the data were organized in a frequency distribution table, the first column would be a list of movies.

ANS: T REF: 2.1 Frequency Distribution and Frequency Distribution

Tables KEY: Bloom's: Apply

2. A group of quiz scores ranges from 3 to 10, but no student had a score of X = 5. If the scores are put in a frequency distribution table, X = 5 would not be listed in the X column.

ANS: F REF: 2.1 Frequency Distributions and Frequency Distribution

Tables KEY: Bloom's: Apply

3. It is customary to list the score categories in a frequency distribution from the highest down to the lowest.

ANS: T REF: 2.1 Frequency Distributions and Frequency Distribution

Tables KEY: Bloom's: Remember

4. For the distribution shown in the following table, N = 5.

 $\frac{X}{5}$   $\frac{f}{2}$   $\frac{1}{4}$   $\frac{1}{8}$ 

| 3 | 5 |
|---|---|
| 2 | 3 |
| 1 | 2 |

ANS: F REF: 2.1 Frequency Distributions and Frequency Distribution Tables KEY: Bloom's: Understand

5. For the following distribution of scores, 20% of the individuals have scores of X = 1.

| X | <u>f</u> |
|---|----------|
| 5 | 2        |
| 4 | 8        |
| 3 | 5        |
| 2 | 3        |
| 1 | 2        |

ANS: F REF: 2.1 Frequency Distributions and Frequency Distribution Tables KEY: Bloom's: Understand

6. For the following distribution of scores,  $\Sigma X = 18$ .

| <u>X</u> | <u>_f</u> |
|----------|-----------|
| 4        | 1         |
| 3        | 2         |
| 2        | 3         |
| 1        | 2         |

ANS: T REF: 2.1 Frequency Distributions and Frequency Distribution Tables KEY: Bloom's: Understand

7. For the following distribution of scores,  $\Sigma X^2 = 92$ .

| X | <u></u> <u>T</u> |
|---|------------------|
| 4 | 1                |
| 3 | 2                |
| 2 | 3                |
| 1 | 2                |

ANS: F REF: 2.1 Frequency Distributions and Frequency Distribution Tables KEY: Bloom's: Understand

8. A grouped frequency distribution table lists one interval as 20-29. The width of this interval is 9 points.

ANS: F REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Understand

9. If a distribution with more than 15 or 20 possible scores is being organized in a frequency distribution table, a grouped table should be used.

ANS: T REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Apply

10. In a grouped frequency distribution table, one interval is identified as 30-34. This interval has a width of 5 points.

ANS: T REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Understand

11. If a set of scores covers a range of 80 points, then the grouped frequency table for the scores should use an interval width of 8 points.

ANS: F REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Apply

12. A set of scores ranges from X = 18 to X = 91. If the scores were put in a grouped frequency distribution table with an interval width of 10 points, the top interval would be 91-100.

ANS: F REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Apply

13. In a grouped frequency distribution table, the top value in each class interval should be a multiple of the interval width.

ANS: F REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Understand

14. A set of scores ranges from a low of X = 18 to a high of X = 98. If the scores are put in a grouped frequency distribution table with an interval width of 10 points, the bottom interval should be 10-19.

ANS: T REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Apply

15. A grouped frequency distribution table does not provide enough information to obtain a complete listing of the original set of scores.

ANS: T REF: 2.2 Grouped Frequency Distribution Tables KEY: Bloom's: Understand

16. For the following distribution, 11 people have scores greater than X = 14.

X f 20-24 2 15-19 5 10-14 4 5-9 1

ANS: F REF: 2.2 Grouped Frequency Distribution Tables KEY:

Bloom's: Apply

17. In the following distribution, the scores are grouped into class intervals that are each 5 points wide.

X
f

| _X    |   |
|-------|---|
| 20-24 | 2 |
| 15-19 | 5 |
| 10-14 | 4 |
| 5-9   | 1 |

ANS: T REF: 2.2 Grouped Frequency Distribution Tables KEY:

Bloom's: Understand

18. A professor records the number of students who are absent each day for the semester. Because this is a discrete variable, a bar graph should be used to show the frequency distribution.

ANS: F REF: 2.3 Frequency Distribution Graphs KEY: Bloom's: Apply

19. If a frequency distribution is presented in a polygon, then the scores were measured on an interval or a ratio scale.

ANS: T REF: 2.3 Frequency Distribution Graphs KEY: Bloom's: Apply

20. A sports historian recorded the number of times that the New York Yankees finished 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and so on, in their division for the past 20 years. If the results are presented in a frequency distribution graph, then a histogram must be used.

ANS: F REF: 2.3 Frequency Distribution Graphs KEY: Bloom's: Apply

21. A space is left between adjacent bars in a bar graph.

ANS: T REF: 2.3 Frequency Distribution Graphs KEY: Bloom's: Remember

22. A set of scores ranging from a high of 47 to a low of 6 is organized in a grouped frequency distribution table using an interval width of 5 points. If the distribution is shown in a graph, then a histogram or polygon should be used.

ANS: T REF: 2.3 Frequency Distribution Graphs KEY: Bloom's: Apply

| 23. | The classrooms in the Psychology department are numbered from 100 to 108. A professor records the number of classes held in each room during the fall semester. If the results were presented in a frequency distribution graph, the professor should use a bar graph. |  |                |   |                   |          |
|-----|--|--|----------------|---|-------------------|----------|
|     | ANS: T<br>Apply  | REF:   | 2.3 Frequen    | ncy Distribution Graphs                 | KEY: Bloom        | 's:      |
| 24. |  | t is appropriate to present a distribution of scores in a polygon, then it would also be propriate to present the scores in a bar graph. |                |   |                   |          |
|     | ANS: F<br>Apply  | REF:   | 2.3 Frequen    | ncy Distribution Graphs                 | KEY: Bloom        | s:       |
| 25. | A histogram is constructed so that adjacent bars touch.  |  |                |   |                   |          |
|     | ANS: T<br>Remember   | REF:   | 2.3 Frequen    | ncy Distribution Graphs                 | KEY: Bloom        | 's:      |
| 26. | The normal distribu  | ution is   | an example     | of a symmetrical distribution.          |                   |          |
|     | ANS: T<br>Bloom's: Understa  | nd   | REF:           | 2.3 Frequency Distribution Grap         | hs                | KEY:     |
| 27. | In February in New York, the daily high temperatures are typically low with only a few relatively warm days. A frequency distribution showing the daily high temperatures would probably form a negatively skewed distribution.  |  |                | ld                                      |                   |          |
|     | ANS: F<br>Bloom's: Apply   |  | REF:           | 2.3 Frequency Distribution Grap         | hs                | KEY:     |
| 28. | The scores for a ve  | ry easy  | exam would     | d probably form a positively skewed     | d distribution.   |          |
|     | ANS: F<br>Bloom's: Apply   |  | REF:           | 2.3 Frequency Distribution Grap         | hs                | KEY:     |
| 29. | If a set of exam scores forms a negatively skewed distribution, it suggests that the majority of the students did not score well on the exam.  |  |                | ty of the                               |                   |          |
|     | ANS: F<br>Bloom's: Apply   |  | REF:           | 2.3 Frequency Distribution Grap         | hs                | KEY:     |
| 30. | In a positively skew off to the right.   | wed dis  | tribution, the | e scores pile up on the left side of th | ne distribution a | nd taper |
|     | ANS: T<br>Bloom's: Understa  | nd   | REF:           | 2.3 Frequency Distribution Grap         | hs                | KEY:     |

## **SHORT ANSWER**

- 1. Find each value requested for the set of scores in the following frequency distribution table.
  - a. *N*
  - b. Σ*X*
  - c.  $\Sigma X^2$

- $\frac{X f}{5 2}$
- 4 2
- 3 3
- 2 5
- 1 2

## ANS:

- a. N = 14
- b.  $\Sigma X = 39$
- c.  $\Sigma X^2 = 131$
- REF: 2.1 Frequency Distributions and Frequency Distribution Tables

KEY:

KEY: Bloom's: Apply

Bloom's: Understand

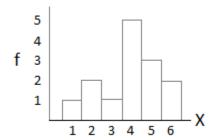
2. Briefly explain what information is available in a regular frequency distribution table that is not available in a grouped table.

ANS: A regular table identifies each individual score. However, in a grouped table, you only know that an individual score is located in a particular interval, but you do not know its exact value.

- REF: 2.2 Grouped Frequency Distribution Tables
- 3. For the following scores
  - a. construct a frequency distribution table.
  - b. sketch a histogram of the frequency distribution.
    - 6, 4, 3, 5, 4, 2, 4
    - 5, 4, 6, 1, 4, 5, 2

#### ANS:

- a.  $\frac{X}{6}$   $\frac{f}{2}$ 
  - 5 3
  - 4 5
  - 3 1
  - 2 2
  - 1 1



REF: 2.3 Frequency Distribution Graphs

KEY: Bloom's: Apply

KEY: Bloom's: Apply

4. For the following scores, construct a grouped frequency distribution table using an interval width of 10 points. Based on the table, what is the shape of the distribution?

30, 23, 58, 28, 35, 67, 74, 59, 27, 42, 46, 35 51, 33, 18, 33, 25, 38, 48, 36, 31, 39, 63, 40

#### ANS:

| ANS.     |   |                   |
|----------|---|-------------------|
| <u>X</u> | f | positively skewed |
| 70-79    | 1 |                   |
| 60-69    | 2 |                   |
| 50-59    | 3 |                   |
| 40-49    | 4 |                   |
| 30-39    | 9 |                   |
| 20-29    | 4 |                   |
| 10-19    | 1 |                   |
|          |   |                   |

REF: 2.2 Grouped Frequency Distribution Tables