1. The main purpose of descriptive statistics is to:
   A. Summarize data in a useful and informative manner.
   B. Make inferences about a population.
   C. Determine if the data adequately represents the population.
   D. Gather or collect data.

2. Which of the following is an example of a continuous variable?
   A. Tons of concrete to complete a parking garage
   B. Number of students in a statistics class
   C. Zip codes of shoppers
   D. Rankings of baseball teams in a league

3. The incomes of 50 loan applicants are obtained. Which level of measurement is income?
   A. Nominal
   B. Ordinal
   C. Interval
   D. Ratio

4. A portion or part of a population is called a:
   A. Random survey
   B. Sample
   C. Tally
   D. Frequency distribution
5. The members of each basketball team wear numbers on their jerseys. What scale of measurement are these numbers considered?
   A. Nominal  
   B. Ordinal  
   C. Interval  
   D. Ratio  

6. Which word is NOT part of the definition of descriptive statistics?
   A. Organizing  
   B. Analyzing  
   C. Presenting  
   D. Predicting  

7. What type of variable is the number of robberies reported in your city?
   A. Attribute  
   B. Continuous  
   C. Quantitative  
   D. Qualitative  

8. What type of variable is the number of auto accidents reported in a given month?
   A. Interval  
   B. Ratio  
   C. Continuous  
   D. Discrete  

9. The final rankings of the top 20 NCAA college basketball teams are an example of which level of measurement?
   A. Nominal
10. An example of a qualitative variable is _________________.
   A. Number of children in a family
   B. Weight of a person
   C. Color of ink in a pen
   D. Miles between oil changes

11. Monthly commissions of first-year insurance brokers are $1,270, $1,310, $1,680, $1,380, $1,410, $1,570, $1,180 and $1,420. These figures are referred to as a(n) ____________.
   A. Histogram
   B. Raw data
   C. Frequency distribution
   D. Frequency polygon

12. When data is collected using a qualitative, nominal variable, what is true about a frequency distribution that summarizes the data?
   A. The upper and lower class limits must be calculated.
   B. A pie chart can be used to summarize the data.
   C. The number of classes is equal to the number of variable's values plus 2.
   D. The "5 to the k rule" can be applied.

13. A student was interested in the cigarette smoking habits of college students and collected data from an unbiased random sample of students. The data is summarized in the following table:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Males who smoke</td>
<td>20</td>
</tr>
<tr>
<td>Males who do not smoke</td>
<td>30</td>
</tr>
<tr>
<td>Females who smoke</td>
<td>25</td>
</tr>
<tr>
<td>Females who do not smoke</td>
<td>50</td>
</tr>
</tbody>
</table>
What type of chart best represents relative class frequencies?

A. Box plot  
B. Pie chart  
C. Scatter plot  
D. Frequency polygon  

14. The relative frequency for a class represents the _______________.  

A. Class width  
B. Class midpoint  
C. Class interval  
D. Percent of observations in the class  

15. The monthly salaries of a sample of 100 employees were rounded to the nearest $10. They ranged from a low of $1,040 to a high of $1,720. If we want to condense the data into seven classes, what is the most convenient class interval?  

A. $50  
B. $100  
C. $150  
D. $200  

16. What is the following table called?  

<table>
<thead>
<tr>
<th>Ages</th>
<th>Number of Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 up to 30</td>
<td>16</td>
</tr>
<tr>
<td>30 up to 40</td>
<td>25</td>
</tr>
<tr>
<td>40 up to 50</td>
<td>51</td>
</tr>
<tr>
<td>50 up to 60</td>
<td>80</td>
</tr>
<tr>
<td>60 up to 70</td>
<td>20</td>
</tr>
<tr>
<td>70 up to 80</td>
<td>8</td>
</tr>
</tbody>
</table>

A. Histogram  
B. Frequency polygon
C. Cumulative frequency distribution

D. Frequency distribution

17. Refer to the following distribution of commissions:

<table>
<thead>
<tr>
<th>Monthly Commissions</th>
<th>Class Frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>$600 up to $800</td>
<td>3</td>
</tr>
<tr>
<td>800 up to 1,000</td>
<td>7</td>
</tr>
<tr>
<td>1,000 up to 1,200</td>
<td>11</td>
</tr>
<tr>
<td>1,200 up to 1,400</td>
<td>22</td>
</tr>
<tr>
<td>1,400 up to 1,600</td>
<td>40</td>
</tr>
<tr>
<td>1,600 up to 1,800</td>
<td>24</td>
</tr>
<tr>
<td>1,800 up to 2,000</td>
<td>9</td>
</tr>
<tr>
<td>2,000 up to 2,200</td>
<td>4</td>
</tr>
</tbody>
</table>

What is the relative frequency for those salespersons that earn from $1,600 up to $1,800?

A. .02

B. .024

C. .20

D. .24

18. Refer to the following distribution of commissions:

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<td>24</td>
</tr>
<tr>
<td>1,800 up to 2,000</td>
<td>9</td>
</tr>
<tr>
<td>2,000 up to 2,200</td>
<td>4</td>
</tr>
</tbody>
</table>

For the preceding distribution, what is the midpoint of the class with the greatest frequency?

A. 1,400
B. 1,500
C. 1,700
D. The midpoint cannot be determined.

19. Refer to the following distribution of commissions:

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<th>Class Frequencies</th>
</tr>
</thead>
<tbody>
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<tr>
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<td>11</td>
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<tr>
<td>1,200 up to 1,400</td>
<td>22</td>
</tr>
<tr>
<td>1,400 up to 1,600</td>
<td>40</td>
</tr>
<tr>
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<td>24</td>
</tr>
<tr>
<td>1,800 up to 2,000</td>
<td>9</td>
</tr>
<tr>
<td>2,000 up to 2,200</td>
<td>4</td>
</tr>
</tbody>
</table>

What is the class interval?
A. 200
B. 300
C. 3,500
D. 400

20. Refer to the following information from a frequency distribution for "heights of college women" recorded to the nearest inch: the first two class midpoints are 62.5" and 65.5". What are the class limits for the lowest class?
A. 61 and up to 64
B. 62 and up to 64
C. 62 and 65
D. 62 and 63

21. The sum of the deviations of each data value from this measure of central location will always be zero.
A. Mode
B. Mean
C. Median
D. Standard deviation

22. For any data set, which measures of central location have only one value?
   A. Mode and median
   B. Mode and mean
   C. Mode and standard deviation
   D. Mean and median

23. Which measures of central location are not affected by extremely small or extremely large values?
   A. Mean and median
   B. Mean and mode
   C. Mode and median
   D. Standard deviation and mean

24. For a data set with an odd number of observations that have been sorted from smallest to largest values, where is the median located?
   A. n
   B. n/2
   C. (n + 1)/2
   D. n + 1/2

25. On a finance exam, 15 accounting majors had an average grade of 90. On the same exam, 7 marketing majors averaged 85, and 10 finance majors averaged 93. What is the weighted mean for all 32 students taking the exam?
   A. 89.84
   B. 89.33
26. What is the median of 26, 30, 24, 32, 32, 31, 27, and 29?
   A. 32
   B. 29
   C. 30
   D. 29.5

27. For the most recent seven years, the U.S. Department of Education reported the following number of bachelor's degrees awarded in computer science: 4,033; 5,652; 6,407; 7,201; 8,719; 11,154; 15,121. What is the annual arithmetic mean number of degrees awarded?
   A. About 12,240
   B. About 8,327
   C. About 6,217
   D. About 15,962

28. According to Chebyshev's theorem, at least what percent of the observations lie within plus and minus 1.75 standard deviations of the mean?
   A. 56%
   B. 95%
   C. 67%
   D. 100%

29. The ages of all the patients in the isolation ward of the hospital are 38, 26, 13, 41, and 22. What is the population variance?
   A. 106.8
   B. 91.4
   C. 240.3
30. A population consists of all the weights of all defensive tackles on a university's football team. They are Johnson, 204 pounds; Patrick, 215 pounds; Junior, 207 pounds; Kendron, 212 pounds; Nicko, 214 pounds; and Cochran, 208 pounds. What is the population standard deviation (in pounds)?

A. About 4
B. About 16
C. About 100
D. About 40

31. The following graph is a ____________.

![Graph Image]

A. Dot plot
B. Stem-and-leaf diagram
C. Box plot
D. Contingency table

32. The test scores for a class of 147 students are computed. What is the location of the test score associated with the third quartile?

A. 111
B. 37
C. 74
D. 75%

33. Quartiles divide a distribution into ____________.

A. 2 equal parts
B. 4 equal parts
C. 10 equal parts
D. 100 equal parts

34. Percentiles divide a distribution into _____________.
   A. 2 equal parts
   B. 4 equal parts
   C. 10 equal parts
   D. 100 equal parts

35. In the following set of data: (1 3 5 6 7 9 100), what are the first, second, and third quartiles?
   A. 1, 6, and 100
   B. 3, 5, and 9
   C. 3, 6, and 9
   D. 1, 5, and 100

36. If the coefficient of skewness is equal to zero, the shape of the distribution is _____________.
   A. Negatively skewed
   B. Symmetric
   C. Positively skewed
   D. Unknown

37. The following graph is _______________.
   A. Positively skewed
B. Negatively skewed
C. Symmetric
D. Uniformly distributed

38. What is the value of the Pearson coefficient of skewness for a distribution with a mean of 17, a median of 12, and a standard deviation of 6?
   A. +2.5
   B. -2.5
   C. +0.83
   D. -0.83

39. The following graph is a _________.

39. The following graph is a _________.

   A. Dot plot
   B. Stem-and-leaf display
   C. Box plot
   D. Scatter plot

40. The following table is a:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>677</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>889</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>001</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>222233</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>555</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>667</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

   A. Dot plot
B. Stem-and-leaf display

C. Box plot

D. Contingency table
ANSWER KEY

1. A
2. A
3. D
4. B
5. A
6. D
7. C
8. D
9. B
10. C
11. B
12. B
13. B
14. D
15. B
16. D
17. C
18. B
19. A
20. A
21. B
22. D
23. C
24. C
25. A
26. D
27. B
28. C
29. A
30. A
31. A
32. A
33. B
34. D
35. C
36. B
37. A
38. A
39. D
40. B