

Biostatistics Exam 2

1. A numerical value used as a summary measure for a sample, such as sample mean, is known as a:
 - A. Population parameter
 - B. Sample parameter
 - C. Sample statistic
 - D. Population mean

2. Since the population size is always larger than the sample size, then the sample statistic
 - A. Can never be larger than the population parameter
 - B. Can never be equal to the population parameter
 - C. Can never be zero
 - D. Can never be smaller than the population parameter

3. The mean of a sample is:
 - A. Always equal to the mean of the population
 - B. Always smaller than the mean of the population
 - C. Computed by summing the data values and dividing the sum by $(n - 1)$
 - D. Computed by summing all the data values and dividing the sum by the number of items

4. The sum of the percent frequencies for all classes will always equal:
 - A. One
 - B. The number of classes
 - C. The number of items in the study
 - D. 100

5. In a five number summary, which of the following is not used for data summarization?
 - A. The smallest value
 - B. The largest value.
 - C. The median
 - D. The 25th percentile
 - E. The mean

6. Since the mode is the most frequently occurring data value, it
 - A. Can never be larger than the mean
 - B. Is always larger than the median
 - C. Is always larger than the mean
 - D. Must have a value of at least two

7. The difference between the largest and the smallest data values is the
 - A. Variance
 - B. Interquartile range
 - C. Range
 - D. Coefficient of variation

8. Which of the following is not a measure of central location?
- A. Mean
 - B. Median
 - C. Variance
 - D. Mode
9. The sum of deviations of the individual data elements from their mean is
- A. Always greater than zero
 - B. Always less than zero
 - C. Sometimes greater than and sometimes less than zero, depending on the data elements
 - D. Always equal to zero
10. A tabular summary of a set of data showing the fraction of the total number of items in several classes is a
- A. Frequency distribution
 - B. Relative frequency distribution
 - C. Frequency
 - D. Cumulative frequency distribution
10. If a data set has an even number of observations, the median
- A. Cannot be determined
 - B. Is the average value of the two middle items
 - C. Must be equal to the mean
 - D. Is the average value of the two middle items when all items are arranged in ascending order.
11. In a truly normal frequency distribution
- A. The mean always is the same as the standard deviation
 - B. The mean is never the same as the mode
 - C. The mode is never the same as the median
 - D. The mean always is the same as the median
12. Researchers typically treat Likert scale responses (i.e., 1 = strongly agree, 2 = agree, etc.) as which scale of measurement?
- A. Nominal scale of measurement
 - B. Ordinal scale of measurement
 - C. Interval scale of measurement
 - D. Ration scale of measurement
13. If a variable can be measured in fractions of units, it is what type of a variable.
- A. Discrete
 - B. Continuous
 - C. Dependent
 - D. Independent
14. What type of graph is used for discrete data or qualitative data?
- A. Bar graph
 - B. Histogram
 - C. Stem plot
 - D. Box plot

15. What type of graph is used for continuous data?
- A. Bar graph
 - B. Histogram
 - C. Stem and leaf plot
 - D. Stem plot

16. In bar graphs, the bars:
- A. Touch
 - B. Don't touch
 - C. Are equal
 - D. Are equally spaced

For questions 17 and 18 use the table below:

Frequency distribution table of the variable "I am very happy with my cell phone service provider."

x	f
Strongly agree	1 2
Agree	2 4
Neither agree or disagree	3 7
Disagree	4 6
Strongly disagree	5 4

17. The value for "f" represents the:
- A. Number of measurement categories.
 - B. Number of responses within a given measurement category
18. In the above frequency table, how many people responded with an answer of 3?
- A. 2
 - B. 4
 - C. 7
 - D. 1
19. With a case-control study design
- A. The study may need to run for a long time for the disease to occur
 - B. We can study many different outcomes
 - C. We must begin with a disease-free group of individuals
 - D. It is easy to study diseases that have a long latency
20. In computing descriptive statistics from grouped data,
- A. Data values are treated as if they occur at the midpoint of a class
 - B. The grouped data result is more accurate than the ungrouped result
 - C. The grouped data computations are used only when a population is being analyzed
 - D. All of the above answers are correct.