

CHAPTER 1 FORM A TEST

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Answer true or false.

- 1) The information we gather with experiments and with surveys is collectively called data. 1) _____
A) True B) False

Provide an appropriate response.

- 2) A survey of 1500 American households found that 33% of the respondents own a computer. Is this value a parameter or a statistic? 2) _____
A) parameter B) statistic

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Fill in the blank.

- 3) The three main aspects of statistics are _____, _____, and _____. 3) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Answer true or false.

- 4) A large company would like to know what percentage of it's employees would utilize an on-site daycare facility. Rather than asking it's 5000 employees, each employee is assigned a number from 1 to 5000 and then a computer program is used to randomly select 100 numbers between 1 and 5000. These employees are then contacted and asked whether they would use an on-site daycare facility. The method used to collect the sample of 100 responses produces a random sample. 4) _____
A) True B) False
- 5) Based on 12,000 responses from 55,000 questionnaires sent to its alumni, a major university estimated that the annual salary of its alumni was \$98,500 per year. This sample was collected using random sampling. 5) _____
A) False B) True
- 6) Inferential statistics are used when data are available only for a sample; however, descriptive statistics are used when data are available for either a sample or a population. 6) _____
A) False B) True

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

- 7) Drug X, a drug that claims to treat male pattern scalp hair loss, was administered for 12 months to over 1800 men aged 18 to 41 with mild to moderate amounts of ongoing hair loss. Whether they were receiving drug X or a placebo (a pill containing no medication), all men were given a medicated shampoo. In general, men who took drug X maintained or increased the number of visible scalp hairs; while scalp hair counts in men who took the placebo continued to decrease. This concluded that drug X is effective in maintaining or increasing the amount of scalp hair in men. Which statement of this example can be referred to as descriptive statistics? 7) _____
- 8) A recent poll asked 1,245 registered voters nationwide, "Which party do you think can do a better job of handling immigration issues?" 31% of the respondents answered "Republicans." With a margin of error of $\pm 3\%$, it is estimated that between 28 and 34 percent of registered voters nationwide feel that the Republican party can do a better job of handling immigration issues. Identify which part of this example is inferential. 8) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Select the most appropriate answer.

- 9) A study attempted to estimate the proportion of Florida residents who were willing to spend more tax dollars on protecting the Florida beaches from environmental disasters. Twenty-four hundred Florida residents were surveyed. Which of the following is the population of interest in the study? 9) _____
- A) all Florida residents who were willing to spend more tax dollars on protecting the beaches from environmental disasters.
 - B) all Florida residents
 - C) all Florida residents who lived along the beaches
 - D) the 2400 Florida residents surveyed
 - E) all residents of the United States
- 10) A short application program for performing a specific task is called a/an 10) _____
- A) sampling.
 - B) time series.
 - C) parameter.
 - D) applet.
 - E) None of these.

Answer true or false.

- 11) In a recent television survey, participants were asked to answer "yes" or "no" to the question "Are you in favor of the death penalty?". Six thousand five hundred responded "yes" while 3700 responded "no". There was a fifty-cent charge for the call. The sampling technique used produces a random sample. 11) _____
- A) True
 - B) False

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Fill in the blank.

- 12) The _____ is the set of all subjects of interest; while the _____ is a subset of the entire set of interest. 12) _____

Provide an appropriate response.

- 13) A radio show host asks listeners whether they believe that human activity is altering the global climate. Of those calling in, only 20% responded by saying yes. Is it safe to infer that only 20% of the general population believes that human activity is altering the global climate? 13) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Determine whether the summary measure is better described as a parameter or a statistic.

- 14) The average age of 25 congressional members who were selected at random from all U.S. Congressmen 14) _____
A) Parameter B) Statistic

Select the most appropriate answer.

- 15) The estimation of the population average age of registered voters in the state of Ohio based on the sample average age of 1,000 registered voters in that state and its corresponding margin of error is an example of 15) _____
A) a statistic.
B) deductive statistics.
C) a parameter.
D) inferential statistics.
E) descriptive statistics.

- 16) The following statement refers to which aspect of a statistical study: "A meteorologist constructs a graph showing the total precipitation in Phoenix, Arizona in each of the months of a given year"? 16) _____
A) Design B) Description C) Inference

Answer true or false.

- 17) Parameter values are usually known. 17) _____
A) True B) False

Provide an appropriate response.

- 18) Using a computer to mimic what would actually happen if you selected a sample and used statistics in real life is called 18) _____
A) time series
B) database
C) simulation
D) random sampling
E) mini-tab

Answer true or false.

- 19) Random sampling enables the sample to be a good reflection of the population. 19) _____
A) True B) False

Determine whether the summary measure is better described as a parameter or a statistic.

- 20) The average height of horse jockeys 20) _____
A) Parameter B) Statistic

The owners of a coffee shop conducted a taste test to determine whether its customers preferred a new coffee brand to the current one sold by the shop. Customers who were willing to participate were given small samples of each of the two brands in random order and were asked to select which one they preferred without knowing the brand. Of the 100 participating customers, 90% chose the new brand. Based on these results, the owners determined that a majority of their customers preferred the new brand and therefore switched their coffee supplier.

- 21) Randomizing the order in which the samples of each brand were given to each customer refers to which aspect of statistics? 21) _____
A) Description
B) Investigation
C) Design
D) Inference
E) None of these

Select the most appropriate answer.

- 22) The following statement refers to which aspect of a statistical study: "The average age of the students in a statistics class is 25 years"? 22) _____
A) Description B) Inference C) Design

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Fill in the blank.

- 23) _____ is the art and science of learning from data. 23) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Select the most appropriate answer.

- 24) Making decisions and predictions based on the data refers to which aspect of statistics? 24) _____
A) Design
B) Description
C) Sampling
D) Inference
E) None of these

Answer true or false.

- 25) To estimate the percentage of defective items a machine is producing, a quality control analyst inspects the first 100 items produced in a day. This technique produces a random sample. 25) _____
A) True B) False

Answer Key

Testname: CHAPTER 1 FORM A TEST

- 1) A
- 2) B
- 3) design, description, inference
- 4) A
- 5) A
- 6) B
- 7) Scalp hair counts in the men who took drug X maintained or increased; scalp hair counts in the men who took the placebo decreased
- 8) It is estimated that between 28 and 34 percent of registered voters nationwide feel that the Republican party can do a better job of handling immigration issues.
- 9) B
- 10) D
- 11) B
- 12) population; sample
- 13) No. Those who respond to this question are unlikely to be representative of the general population for two reasons. First, listeners to the show are unlikely to be representative of the general population, as they are likely to share the views of the radio show host, and may not represent a wide spectrum of views. Second, those listeners who respond voluntarily to the question are likely to be those who feel the most strongly about the issue. Their views are unlikely to be representative of all listeners to the show let alone of the general population.
- 14) B
- 15) D
- 16) B
- 17) B
- 18) C
- 19) A
- 20) A
- 21) C
- 22) A
- 23) Statistics
- 24) D
- 25) B