

## CHAPTER 1: INTRODUCTION AND DATA COLLECTION

1. The process of using sample statistics to draw conclusions about true population parameters is called
  - a) statistical inference.
  - b) the scientific method.
  - c) sampling.
  - d) descriptive statistics.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: inferential statistics

2. Those methods involving the collection, presentation, and characterization of a set of data in order to properly describe the various features of that set of data are called
  - a) statistical inference.
  - b) the scientific method.
  - c) sampling.
  - d) descriptive statistics.

ANSWER:

d

TYPE: MC DIFFICULTY: Easy

KEYWORDS: descriptive statistics

3. The collection and summarization of the socioeconomic and physical characteristics of the employees of a particular firm is an example of
  - a) inferential statistics.
  - b) descriptive statistics.
  - c) a parameter.
  - d) a statistic.

ANSWER:

b

TYPE: MC DIFFICULTY: Easy

KEYWORDS: descriptive statistics

## 2 Chapter 1 Introduction and Data Collection

4. The estimation of the population average family expenditure on food based on the sample average expenditure of 1,000 families is an example of
- a) inferential statistics.
  - b) descriptive statistics.
  - c) a parameter.
  - d) a statistic.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: inferential statistics

5. The universe or "totality of items or things" under consideration is called
- a) a sample.
  - b) a population.
  - c) a parameter.
  - d) a statistic.

ANSWER:

b

TYPE: MC DIFFICULTY: Easy

KEYWORDS: population

6. The portion of the universe that has been selected for analysis is called
- a) a sample.
  - b) a frame.
  - c) a parameter.
  - d) a statistic.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: sample

7. A summary measure that is computed to describe a characteristic from only a sample of the population is called
- a) a parameter.
  - b) a census.
  - c) a statistic.
  - d) the scientific method.

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: statistic

8. A summary measure that is computed to describe a characteristic of an entire population is called
- a) a parameter.
  - b) a census.
  - c) a statistic.
  - d) the scientific method.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: parameter

9. Which of the following is most likely a population as opposed to a sample?
- a) respondents to a newspaper survey.
  - b) the first 5 students completing an assignment.
  - c) every third person to arrive at the bank.
  - d) registered voters in a county.

ANSWER:

d

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: population, sample

10. Which of the following is most likely a parameter as opposed to a statistic?
- a) The average score of the first five students completing an assignment.
  - b) The proportion of females registered to vote in a county.
  - c) The average height of people randomly selected from a database.
  - d) The proportion of trucks stopped yesterday that were cited for bad brakes.

ANSWER:

b

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: parameter, statistic

11. Which of the following is not an element of descriptive statistical problems?
- a) An inference made about the population based on the sample.
  - b) The population or sample of interest.
  - c) Tables, graphs, or numerical summary tools.
  - d) Identification of patterns in the data.

ANSWER:

a

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: descriptive statistics

12. A study is under way in Yosemite National Forest to determine the adult height of American pine trees. Specifically, the study is attempting to determine what factors aid a tree in reaching heights greater than 60 feet tall. It is estimated that the forest contains 25,000 adult American pines. The study involves collecting heights from 250 randomly selected adult American pine trees and analyzing the results. Identify the population from which the study was sampled.
- a) The 250 randomly selected adult American pine trees.
  - b) The 25,000 adult American pine trees in the forest.
  - c) All the adult American pine trees taller than 60 feet.
  - d) All American pine trees, of any age, in the forest.

ANSWER:

b

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: population, sample

13. A study is under way in Yosemite National Forest to determine the adult height of American pine trees. Specifically, the study is attempting to determine what factors aid a tree in reaching heights greater than 60 feet tall. It is estimated that the forest contains 25,000 adult American pines. The study involves collecting heights from 250 randomly selected adult American pine trees and analyzing the results. Identify the variable of interest in the study.
- a) The age of an American pine tree in Yosemite National Forest.
  - b) The height of an American pine tree in Yosemite National Forest.
  - c) The number of American pine trees in Yosemite National Forest.
  - d) The species of trees in Yosemite National Forest.

ANSWER:

b

TYPE: MC DIFFICULTY: Easy

KEYWORDS: data, sampling

14. A study is under way in Yosemite National Forest to determine the adult height of American pine trees. Specifically, the study is attempting to determine what factors aid a tree in reaching heights greater than 60 feet tall. It is estimated that the forest contains 25,000 adult American pines. The study involves collecting heights from 250 randomly selected adult American pine trees and analyzing the results. Identify the sample in the study.
- a) The 250 randomly selected adult American pine trees.
  - b) The 25,000 adult American pine trees in the forest.
  - c) All the adult American pine trees taller than 60 feet.
  - d) All American pine trees, of any age, in the forest.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: population, sample

15. Most analysts focus on the cost of tuition as the way to measure the cost of a college education. But incidentals, such as textbook costs, are rarely considered. A researcher at Drummand University wishes to estimate the textbook costs of first-year students at Drummand. To do so, she monitored the textbook cost of 250 first-year students and found that their average textbook cost was \$300 per semester. Identify the population of interest to the researcher.

- a) All Drummand University students.
- b) All college students.
- c) All first-year Drummand University students.
- d) The 250 students that were monitored.

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: population, sample

16. Most analysts focus on the cost of tuition as the way to measure the cost of a college education. But incidentals, such as textbook costs, are rarely considered. A researcher at Drummand University wishes to estimate the textbook costs of first-year students at Drummand. To do so, she monitored the textbook cost of 250 first-year students and found that their average textbook cost was \$300 per semester. Identify the variable of interest to the researcher.
- a) The textbook cost of first-year Drummand University students.
  - b) The year in school of Drummand University students.
  - c) The age of Drummand University students.
  - d) The cost of incidental expenses of Drummand University students.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: data, sampling

17. Most analysts focus on the cost of tuition as the way to measure the cost of a college education. But incidentals, such as textbook costs, are rarely considered. A researcher at Drummand University wishes to estimate the textbook costs of first-year students at Drummand. To do so, she monitored the textbook cost of 250 first-year students and found that their average textbook cost was \$300 per semester. Identify the sample in the study.
- a) All Drummand University students.
  - b) All college students.
  - c) All first-year Drummand University students.
  - d) The 250 students that were monitored.

ANSWER:

d

TYPE: MC DIFFICULTY: Easy

KEYWORDS: population, sample

18. Researchers suspect that the average number of units earned per semester by college students is rising. A researcher at Calendula College wishes to estimate the number of units earned by students during the spring semester at Calendula. To do so, he randomly selects 100 student transcripts and records the number of units each student earned in the spring term. He found that the average number of semester units completed was 12.96 units per student. Identify the population of interest to the researcher.
- a) All Calendula College students.
  - b) All college students.
  - c) All Calendula College students enrolled in the spring.
  - d) All college students enrolled in the spring.

ANSWER:

c

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: population, sample

19. The average number of units earned per semester by college students is suspected to be rising. A researcher at Calendula College wishes to estimate the number of units earned by students during the spring semester at Calendula. To do so, he randomly selects 100 student transcripts and records the number of units each student earned in the spring term. Identify the variable of interest to the researcher.
- a) The number of students enrolled at Calendula College during the spring term.
  - b) The average indebtedness of Calendula College students enrolled in the spring.
  - c) The age of Calendula College students enrolled in the spring.
  - d) The number of units earned by Calendula College students during the spring term.

ANSWER:

d

TYPE: MC DIFFICULTY: Easy

KEYWORDS: data, sampling

20. Jared was working on a project to look at global warming and accessed an Internet site where he captured average global surface temperatures from 1866. Which of the four methods of data collection was he using?
- a) Published sources
  - b) Experimentation
  - c) Surveying
  - d) Observation

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: sources of data

21. The British Airways Internet site provides a questionnaire instrument that can be answered electronically. Which of the 4 methods of data collection is involved when people complete the questionnaire?
- a) Published sources
  - b) Experimentation
  - c) Surveying
  - d) Observation

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: sources of data

22. A marketing research firm, in conducting a comparative taste test, provided three types of peanut butter to a sample of households randomly selected within the state. Which of the 4 methods of data collection is involved when people are asked to compare the three types of peanut butter?
- a) Published sources
  - b) Experimentation
  - c) Surveying
  - d) Observation

ANSWER:

b

TYPE: MC DIFFICULTY: Easy

KEYWORDS: sources of data

23. Tim was planning for a meeting with his boss to discuss a raise in his annual salary. In preparation, he wanted to use the Consumer Price Index to determine the percentage increase in his real (inflation-adjusted) salary over the last three years. Which of the 4 methods of data collection was involved when he used the Consumer Price Index?
- a) Published sources
  - b) Experimentation
  - c) Surveying
  - d) Observation

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: sources of data

24. Which of the 4 methods of data collection is involved when a person counts the number of cars passing designated locations on the Los Angeles freeway system?
- a) Published sources
  - b) Experimentation
  - c) Surveying
  - d) Observation

ANSWER:

d

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: sources of data

25. A statistics student found a reference in the campus library that contained the median family incomes for all 50 states. She would report her data as being collected using
- a) a designed experiment.
  - b) observational data.
  - c) a random sample.
  - d) a published source.

ANSWER:

d

TYPE: MC DIFFICULTY: Easy

KEYWORDS: sources of data

26. The personnel director at a large company studied the eating habits of the company's employees. The director noted whether employees brought their own lunches to work, ate at the company cafeteria, or went out to lunch. The goal of the study was to improve the food service at the company cafeteria. This type of data collection would best be considered as
- a) an observational study.
  - b) a designed experiment.
  - c) a random sample.
  - d) a quota sample.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: sources of data

27. A study attempted to estimate the proportion of Florida residents who were willing to spend more tax dollars on protecting the beaches from environmental disasters. Twenty-five hundred Florida residents were surveyed. What type of data collection procedure was most likely used to collect the data for this study?
- a) A designed experiment
  - b) A published source
  - c) A random sample
  - d) Observational data

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: sources of data

28. Which of the following is a discrete quantitative variable?
- a) The Dow Jones Industrial average
  - b) The volume of water released from a dam
  - c) The distance you drove yesterday.
  - d) The number of employees of an insurance company

ANSWER:

d

TYPE: MC DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

29. Which of the following is a continuous quantitative variable?
- a) The color of a student's eyes
  - b) The number of employees of an insurance company
  - c) The amount of milk produced by a cow in one 24-hour period
  - d) The number of gallons of milk sold at the local grocery store yesterday

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: continuous random variable, types of data



30. To monitor campus security, the campus police office is taking a survey of the number of students in a parking lot each 30 minutes of a 24-hour period with the goal of determining when patrols of the lot would serve the most students. If  $X$  is the number of students in the lot each period of time, then  $X$  is an example of
- a) a categorical random variable.
  - b) a discrete random variable.
  - c) a continuous random variable.
  - d) a statistic.

ANSWER:

b

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: discrete random variable, types of data

31. Researchers are concerned that the weight of the average American school child is increasing implying, among other things, that children's clothing should be manufactured and marketed in larger sizes. If  $X$  is the weight of school children sampled in a nationwide study, then  $X$  is an example of
- a) a categorical random variable.
  - b) a discrete random variable.
  - c) a continuous random variable.
  - d) a parameter.

ANSWER:

c

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: continuous random variable, types of data

32. The classification of student class designation (freshman, sophomore, junior, senior) is an example of
- a) a categorical random variable.
  - b) a discrete random variable.
  - c) a continuous random variable.
  - d) a parameter.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

33. The classification of student major (accounting, economics, management, marketing, other) is an example of
- a) a categorical random variable.
  - b) a discrete random variable.
  - c) a continuous random variable.
  - d) a parameter.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

34. The chancellor of a major university was concerned about alcohol abuse on her campus and wanted to find out the proportion of students at her university who visited campus bars on the weekend before the final exam week. Her assistant took a random sample of 250 students. The total number of students in the sample who visited campus bars on the weekend before the final exam week is an example of
- a) a categorical random variable.
  - b) a discrete random variable.
  - c) a continuous random variable.
  - d) a parameter.

ANSWER:

b

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: discrete random variable, types of data

35. The chancellor of a major university was concerned about alcohol abuse on her campus and wanted to find out the proportion of students at her university who visited campus bars on the weekend before the final exam week. Her assistant took a random sample of 250 students and computed the portion of students in the sample who visited campus bars on the weekend before the final exam. The portion of all students at her university who visited campus bars on the weekend before the final exam week is an example of
- a) a categorical random variable.
  - b) a discrete random variable.
  - c) a continuous random variable.
  - d) a parameter.

ANSWER:

d

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: parameter, types of data

36. The chancellor of a major university was concerned about alcohol abuse on her campus and wanted to find out the proportion of students at her university who visited campus bars on the weekend before the final exam week. Her assistant took a random sample of 250 students. The portion of students in the sample who visited campus bars on the weekend before the final exam week is an example of \_\_\_\_\_.
- a) a categorical random variable.
  - b) a discrete random variable.
  - c) a parameter.
  - d) a statistic

ANSWER:

d

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: statistic, types of data

37. The chancellor of a major university was concerned about alcohol abuse on her campus and wanted to find out the proportion of students at her university who visited campus bars on the weekend before the final exam week. Her assistant took a random sample of 250 students. The portion of students in the sample who visited campus bars on the weekend before the final exam week is an example of \_\_\_\_\_.
- a categorical random variable.
  - a discrete random variable.
  - a continuous random variable.
  - a parameter.

ANSWER:

c

TYPE: MC DIFFICULTY: Difficult

KEYWORDS: continuous random variable, types of data

TABLE 1-1

The manager of the customer service division of a major consumer electronics company is interested in determining whether the customers who have purchased a videocassette recorder made by the company over the past 12 months are satisfied with their products.

38. Referring to Table 1-1, the population of interest is
- all the customers who have bought a videocassette recorder made by the company over the past 12 months.
  - all the customers who have bought a videocassette recorder made by the company and brought it in for repair over the past 12 months.
  - all the customers who have used a videocassette recorder over the past 12 months.
  - all the customers who have ever bought a videocassette recorder made by the company.

ANSWER:

a

TYPE: MC DIFFICULTY: Difficult

KEYWORDS: population

39. Referring to Table 1-1, which of the following will be a good frame for drawing a sample?
- Telephone directory.
  - Voting registry.
  - The list of customers who returned the registration card.
  - A list of potential customers purchased from a database marketing company.

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: frame

40. Referring to Table 1-1, the possible responses to the question "How many videocassette recorders made by other manufacturers have you used?" are values from a
- a) discrete random variable.
  - b) continuous random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

41. Referring to Table 1-1, the possible responses to the question "Are you happy, indifferent, or unhappy with the performance per dollar spent on the videocassette recorder?" are values from a
- a) discrete numerical random variable.
  - b) continuous numerical random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

42. Referring to Table 1-1, the possible responses to the question "What is your annual income rounded to the nearest thousands?" are values from a
- a) discrete numerical random variable.
  - b) continuous numerical random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

43. Referring to Table 1-1, the possible responses to the question "How much time do you use the videocassette recorder every week on the average?" are values from a
- a) discrete numerical random variable.
  - b) continuous numerical random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

b

TYPE: MC DIFFICULTY: Easy

KEYWORDS: continuous random variable, types of data

44. Referring to Table 1-1, the possible responses to the question "How many people are there in your household?" are values from a
- a) discrete numerical random variable.
  - b) continuous numerical random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

45. Referring to Table 1-1, the possible responses to the question "How would you rate the quality of your purchase experience with 1 = excellent, 2 = good, 3 = decent, 4 = poor, 5 = terrible?" are values from a
- a) discrete numerical random variable.
  - b) continuous numerical random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

46. Referring to Table 1-1, the possible responses to the question "What brand of videocassette recorder did you purchase?" are values from a
- a) discrete numerical random variable.
  - b) continuous numerical random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

47. Referring to Table 1-1, the possible responses to the question "Out of a 100 point score with 100 being the highest and 0 being the lowest, what is your satisfaction level on the videocassette recorder that you purchased?" are values from a
- a) discrete numerical random variable.
  - b) continuous numerical random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

a

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: discrete random variable, types of data

48. Referring to Table 1-1, the possible responses to the question "In which year were you born?" are values from a
- a) discrete numerical random variable.
  - b) continuous numerical random variable.
  - c) categorical random variable.
  - d) parameter.

ANSWER:

a

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: discrete random variable, types of data

49. Referring to Table 1-1, the possible responses to the question "How many videocassette recorders made by other manufacturers have you used?" result in
- a) a nominal scale variable.
  - b) an ordinal scale variable.
  - c) an interval scale variable.
  - d) a ratio scale variable.

ANSWER:

d

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: ratio scale, types of data

50. Referring to Table 1-1, the possible responses to the question "Are you happy, indifferent, or unhappy with the performance per dollar spent on the videocassette recorder?" result in
- a) a nominal scale variable.
  - b) an ordinal scale variable.
  - c) an interval scale variable.
  - d) a ratio scale variable.

ANSWER:

b

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: ordinal scale, types of data

51. Referring to Table 1-1, the possible responses to the question "What is your annual income rounded to the nearest thousands?" result in
- a) a nominal scale variable.
  - b) an ordinal scale variable.
  - c) an interval scale variable.
  - d) a ratio scale variable.

ANSWER:

d

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: ratio scale, types of data

52. Referring to Table 1-1, the possible responses to the question "How much time do you use the videocassette recorder every week on the average?" result in

- a) a nominal scale variable.
- b) an ordinal scale variable.
- c) an interval scale variable.
- d) a ratio scale variable.

ANSWER:

d

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: ratio scale, types of data

53. Referring to Table 1-1, the possible responses to the question "How many people are there in your household?" result in

- a) a nominal scale variable.
- b) an ordinal scale variable.
- c) an interval scale variable.
- d) a ratio scale variable.

ANSWER:

d

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: ratio scale, types of data

54. Referring to Table 1-1, the possible responses to the question "How would you rate the quality of your purchase experience with 1 = excellent, 2 = good, 3 = decent, 4 = poor, 5 = terrible?" result in

- a) a nominal scale variable.
- b) an ordinal scale variable.
- c) an interval scale variable.
- d) a ratio scale variable.

ANSWER:

b

TYPE: MC DIFFICULTY: Moderate

EXPLANATION: The rating is ordinal scale not interval scale because the difference in rating between "excellent" and "good" does not have to be the same as the difference between "poor" and "terrible".

KEYWORDS: ordinal scale, types of data

55. Referring to Table 1-1, the possible responses to the question "What brand of videocassette recorder did you purchase?" result in

- a) a nominal scale variable.
- b) an ordinal scale variable.
- c) an interval scale variable.
- d) a ratio scale variable.

ANSWER:

a

TYPE: MC DIFFICULTY: Easy

KEYWORDS: nominal scale, types of data

56. Referring to Table 1-1, the possible responses to the question "Out of a 100 point score with 100 being the highest and 0 being the lowest, what is your satisfaction level on the videocassette recorder that you purchased?" result in
- a) a nominal scale variable.
  - b) an ordinal scale variable.
  - c) an interval scale variable.
  - d) a ratio scale variable.

ANSWER:

c

TYPE: MC DIFFICULTY: Easy

EXPLANATION: The rating is interval scale not ordinal scale because the difference in rating between "80" and "90" can be treated as the same as the difference between "30" and "40".

KEYWORDS: interval scale, types of data

57. Referring to Table 1-1, the possible responses to the question "In which year were you born?" result in
- a) a nominal scale variable.
  - b) an ordinal scale variable.
  - c) an interval scale variable.
  - d) a ratio scale variable.

ANSWER:

c

TYPE: MC DIFFICULTY: Moderate

KEYWORDS: interval scale, types of data

58. True or False: A population is the totality of items or things under consideration.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: population

59. True or False: A sample is the portion of the universe that is selected for analysis.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: sample



60. True or False: Problems may arise when statistically unsophisticated users who do not understand the assumptions behind the statistical procedures or their limitations are misled by results obtained from computer software.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: statistical package

61. True or False: Managers need an understanding of statistics to be able to present and describe information accurately, draw conclusions about large populations based on small samples, improve processes, and make reliable forecasts.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: reasons for learning statistics

62. True or False: The possible responses to the question “How long have you been living at your current residence?” are values from a continuous variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Moderate

KEYWORDS: continuous random variable, types of data

63. True or False: The possible responses to the question “How many times in the past three months have you visited a city park?” are values from a discrete variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Moderate

KEYWORDS: discrete random variable, types of data

64. True or False: A continuous variable may take on any value within its relevant range even though the measurement device may not be precise enough to record it.

ANSWER:

True

TYPE: TF DIFFICULTY: Moderate

KEYWORDS: continuous random variable, types of data

65. True or False: Faculty rank (professor to lecturer) is an example of discrete numerical data.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

66. True or False: Student grades (A to F) are an example of continuous numerical data.

ANSWER:

False

TYPE: TF DIFFICULTY: Moderate

KEYWORDS: categorical random variables, types of data

67. True or False: The amount of coffee consumed by an individual in a day is an example of a discrete numerical variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Moderate

KEYWORDS: continuous random variables, types of data

68. True or False: A statistic is usually used to provide an estimate for a usually unobserved parameter.

ANSWER:

True

TYPE: TF DIFFICULTY: Moderate

KEYWORDS: statistic, parameter, inferential statistics

69. True or False: A statistic is usually unobservable while a parameter is usually observable.

ANSWER:

False

TYPE: TF DIFFICULTY: Moderate

KEYWORDS: statistic, parameter, inferential statistic

70. True or False: The answer to the question “What is your favorite color?” is an example of an ordinal scaled variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: nominal scale

71. True or False: The answer to the question “How do you rate the quality of your business statistics course?” is an example of an ordinal scaled variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: ordinal scale

72. True or False: The answer to the question “How many hours on average do you spend watching TV every week?” is an example of a ratio scaled variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: ratio scale

73. True or False: The answer to the question “What is your sleeping bag temperature rating?” is an example of a ratio scaled variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: interval scale

74. True or False: A professor computed the sample average exam score of 20 students and used it to estimate the average exam score of the 1,500 students taking the exam was an example of inferential statistics.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: descriptive statistics, inferential statistics

75. True or False: Using the number of registered voters who turned out to vote for the primary in Iowa to predict the number of registered voters who will turn out to vote in Vermont’s primary is an example of descriptive statistics.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: descriptive statistics, inferential statistics

76. True or False: Compiling the number of registered voters who turned out to vote for the primary in Iowa is an example of descriptive statistics.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: descriptive statistics, inferential statistics

77. The Human Resources Director of a large corporation wishes to develop an employee benefits package and decides to select 500 employees from a list of all ( $N = 40,000$ ) workers in order to study their preferences for the various components of a potential package. All the employees in the corporation constitute the \_\_\_\_\_.

ANSWER:

population

TYPE: FI DIFFICULTY: Easy

KEYWORDS: population

78. The Human Resources Director of a large corporation wishes to develop an employee benefits package and decides to select 500 employees from a list of all ( $N = 40,000$ ) workers in order to study their preferences for the various components of a potential package. The 500 employees who will participate in this study constitute the \_\_\_\_\_.

ANSWER:

sample

TYPE: FI DIFFICULTY: Easy

KEYWORDS: sample

79. The Human Resources Director of a large corporation wishes to develop an employee benefits package and decides to select 500 employees from a list of all ( $N = 40,000$ ) workers in order to study their preferences for the various components of a potential package. The Director will use the data from the sample to compute \_\_\_\_\_.

ANSWER:

statistics

TYPE: FI DIFFICULTY: Easy

KEYWORDS: statistic

80. The Human Resources Director of a large corporation wishes to develop an employee benefits package and decides to select 500 employees from a list of all ( $N = 40,000$ ) workers in order to study their preferences for the various components of a potential package. Information obtained from the sample will be used to draw conclusions about the true population \_\_\_\_\_.

ANSWER:

parameters

TYPE: FI DIFFICULTY: Easy

KEYWORDS: parameter

81. The Human Resources Director of a large corporation wishes to develop an employee benefits package and decides to select 500 employees from a list of all ( $N = 40,000$ ) workers in order to study their preferences for the various components of a potential package. In this study, methods involving the collection, presentation, and characterization of the data are called \_\_\_\_\_.

ANSWER:

descriptive statistics/methods

TYPE: FI DIFFICULTY: Easy

KEYWORDS: descriptive statistics

82. The Human Resources Director of a large corporation wishes to develop an employee benefits package and decides to select 500 employees from a list of all ( $N = 40,000$ ) workers in order to study their preferences for the various components of a potential package. In this study, methods that result in decisions concerning population characteristics based only on the sample results are called \_\_\_\_\_.

ANSWER:

inferential statistics/methods

TYPE: FI DIFFICULTY: Easy

KEYWORDS: inferential statistics

83. Mediterranean fruit flies were discovered in California a few years ago and badly damaged the oranges grown in that state. Suppose the manager of a large farm wanted to study the impact of the fruit flies on the orange crops on a daily basis over a 6-week period. On each day a random sample of orange trees were selected from within a random sample of acres. The daily average number of damaged oranges per tree and the proportion of trees having damaged oranges were calculated. The two main measures calculated each day (i.e., average number of damaged oranges per tree and proportion of trees having damaged oranges) are called \_\_\_\_\_.

ANSWER:

statistics

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: statistic

84. Mediterranean fruit flies were discovered in California a few years ago and badly damaged the oranges grown in that state. Suppose the manager of a large farm wanted to study the impact of the fruit flies on the orange crops on a daily basis over a 6-week period. On each day a random sample of orange trees were selected from within a random sample of acres. The daily average number of damaged oranges per tree and the proportion of trees having damaged oranges were calculated. The two main measures calculated each day (i.e., average number of damaged oranges per tree and proportion of trees having damaged oranges) may be used on a daily basis to estimate the respective true population \_\_\_\_\_.

ANSWER:

parameters

TYPE: FI DIFFICULTY: Easy

KEYWORDS: parameters

85. Mediterranean fruit flies were discovered in California a few years ago and badly damaged the oranges grown in that state. Suppose the manager of a large farm wanted to study the impact of the fruit flies on the orange crops on a daily basis over a 6-week period. On each day a random sample of orange trees were selected from within a random sample of acres. The daily average number of damaged oranges per tree and the proportion of trees having damaged oranges were calculated. In this study, drawing conclusions on any one day about the true population characteristics based on information obtained from the sample is called \_\_\_\_\_.

ANSWER:

inferential statistics/methods

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: inferential statistics

86. Mediterranean fruit flies were discovered in California a few years ago and badly damaged the oranges grown in that state. Suppose the manager of a large farm wanted to study the impact of the fruit flies on the orange crops on a daily basis over a 6-week period. On each day a random sample of orange trees were selected from within a random sample of acres. The daily average number of damaged oranges per tree and the proportion of trees having damaged oranges were calculated. In this study, the presentation and characterization of the two main measures calculated each day (i.e., average number of damaged oranges per tree and proportion of trees having damaged oranges) is called \_\_\_\_\_.

ANSWER:  
descriptive statistics/methods  
TYPE: FI DIFFICULTY: Moderate  
KEYWORDS: descriptive statistics

87. The Quality Assurance Department of a large urban hospital is attempting to monitor and evaluate patient satisfaction with hospital services. Prior to discharge, a random sample of patients is asked to fill out a questionnaire to rate such services as medical care, nursing, therapy, laboratory, food, and cleaning. The Quality Assurance Department prepares weekly reports that are presented at the Board of Directors meetings and extraordinary/atypical ratings are easy to flag. Values computed from the sample results each week are called \_\_\_\_\_.

ANSWER:  
statistics  
TYPE: FI DIFFICULTY: Easy  
KEYWORDS: statistic

88. The Quality Assurance Department of a large urban hospital is attempting to monitor and evaluate patient satisfaction with hospital services. Prior to discharge, a random sample of patients is asked to fill out a questionnaire to rate such services as medical care, nursing, therapy, laboratory, food, and cleaning. The Quality Assurance Department prepares weekly reports that are presented at the Board of Directors meetings and extraordinary/atypical ratings are easy to flag. True population characteristics estimated from the sample results each week are called \_\_\_\_\_.

ANSWER:  
parameters  
TYPE: FI DIFFICULTY: Easy  
KEYWORDS: parameter

89. The Commissioner of Health in New York State wanted to study malpractice litigation in New York. A sample of 31 thousand medical records was drawn from a population of 2.7 million patients who were discharged during the year 1997. The proportion of malpractice claims filed from the sample of 31 thousand patients is a \_\_\_\_\_.

ANSWER:  
statistic  
TYPE: FI DIFFICULTY: Moderate  
KEYWORDS: statistic

90. The Commissioner of Health in New York State wanted to study malpractice litigation in New York. A sample of 31 thousand medical records was drawn from a population of 2.7 million patients who were discharged during the year 1997. The true proportion of malpractice claims filed from the population of 2.7 million patients is a \_\_\_\_\_.

ANSWER:

parameter

TYPE: FI DIFFICULTY: Easy

KEYWORDS: parameter

91. The Commissioner of Health in New York State wanted to study malpractice litigation in New York. A sample of 31 thousand medical records was drawn from a population of 2.7 million patients who were discharged during the year 1997. Using the information obtained from the sample to predict population characteristics with respect to malpractice litigation is an example of \_\_\_\_\_.

ANSWER:

inferential statistics

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: inferential statistics

92. The Commissioner of Health in New York State wanted to study malpractice litigation in New York. A sample of 31 thousand medical records was drawn from a population of 2.7 million patients who were discharged during the year 1997. The collection, presentation, and characterization of the data from patient medical records are examples of \_\_\_\_\_.

ANSWER:

descriptive statistics/methods

TYPE: FI DIFFICULTY: Easy

KEYWORDS: descriptive statistics

93. An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. The number of claims a person has made in the last 3 years is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

discrete

TYPE: FI DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

94. An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. The distance a person drives in a year is an example of a \_\_\_\_\_ variable.

ANSWER:

continuous

TYPE: FI DIFFICULTY: Easy

KEYWORDS: continuous random variable, types of data

95. An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. A person's age is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

continuous

TYPE: FI DIFFICULTY: Easy

KEYWORDS: continuous random variable, types of data

96. An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. How long a person has been a licensed driver is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

continuous

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: continuous random variable, types of data

97. An insurance company evaluates many numerical variables about a person before deciding on an appropriate rate for automobile insurance. The number of tickets a person has received in the last 3 years is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

discrete

TYPE: FI DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

98. In purchasing an automobile, there are a number of variables to consider. The body style of the car (sedan, coupe, wagon, etc.) is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

99. In purchasing an automobile, there are a number of variables to consider. The classification of the car as a subcompact, compact, standard, or luxury size is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

100. In purchasing an automobile, there are a number of variables to consider. The color of the car is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data



101. Most colleges admit students based on their achievements in a number of different areas. Whether a student has taken any advanced placement courses is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

102. Most colleges admit students based on their achievements in a number of different areas. The grade obtained in senior level English. (A, B, C, D, or F) is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: categorical random variable, types of data

103. Most colleges admit students based on their achievements in a number of different areas. The total SAT score achieved by a student is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

discrete

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: discrete random variable, types of data

104. The Dean of Students conducted a survey on campus. The gender of the student is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

105. The Dean of Students conducted a survey on campus. Class designation (Freshman, Sophomore, Junior, Senior) is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

106. The Dean of Students conducted a survey on campus. Major area of study is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

107. The Dean of Students conducted a survey on campus. Average SAT score in mathematics is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

continuous

TYPE: FI DIFFICULTY: Easy

KEYWORDS: continuous random variable, types of data

108. The Dean of Students conducted a survey on campus. Grade point average (GPA) is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

continuous

TYPE: FI DIFFICULTY: Easy

KEYWORDS: continuous random variable, types of data

109. The Dean of Students conducted a survey on campus. Number of credits currently enrolled for is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

discrete

TYPE: FI DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

110. The Dean of Students conducted a survey on campus. Number of clubs, groups, teams, and organizations affiliated with on campus is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

discrete

TYPE: FI DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

111. A personal computer user survey was conducted. Computer brand primarily used is an example of a \_\_\_\_\_ variable.

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

112. A personal computer user survey was conducted. Number of personal computers owned is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

discrete

TYPE: FI DIFFICULTY: Easy

KEYWORDS: discrete random variable, types of data

113. A personal computer user survey was conducted. The number of years using a personal computer is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

continuous

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: continuous random variable, types of data

114. A personal computer user survey was conducted. Hours of personal computer use per week is an example of a \_\_\_\_\_ numerical variable

ANSWER:

continuous

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: continuous random variable, types of data

115. A personal computer user survey was conducted. Primary word processing package used is an example of a \_\_\_\_\_ variable

ANSWER:

categorical

TYPE: FI DIFFICULTY: Easy

KEYWORDS: categorical random variable, types of data

116. A personal computer user survey was conducted. The number of computer magazine subscriptions is an example of a \_\_\_\_\_ numerical variable.

ANSWER:

discrete

TYPE: FI DIFFICULTY: Moderate

KEYWORDS: discrete random variable, types of data

117. The type of TV one owns is an example of an ordinal scaled variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: nominal scale, ordinal scale

118. The type of TV one owns is an example of a numerical variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: categorical random variable

119. Whether the university is private or public is an example of a nominal scaled variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: nominal scale

120. Whether the university is private or public is an example of a categorical variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: categorical random variable

121. Marital status is an example of an ordinal scaled variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: nominal scale, ordinal scale

122. Marital status is an example of a numerical variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: categorical random variable

123. The grade level (K-12) of a student is an example of a nominal scaled variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: nominal scale, ordinal scale

124. The grade level (K-12) of a student is an example of a numerical variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: categorical random variable

125. The level of satisfaction (“Very unsatisfied”, “Fairly unsatisfied”, “Fairly satisfied”, and “Very satisfied”) in a class is an example of an ordinal scaled variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: ordinal scale

126. The level of satisfaction (“Very unsatisfied”, “Fairly unsatisfied”, “Fairly satisfied”, and “Very satisfied”) in a class is an example of a categorical variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: categorical random variable

127. The quality (“terrible”, “poor”, “fair”, “acceptable”, “very good” and “excellent”) of a day care center is an example of a nominal scaled variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: nominal scale, ordinal scale

128. The quality (“terrible”, “poor”, “fair”, “acceptable”, “very good” and “excellent”) of a day care center is an example of a numerical variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: categorical random variable

129. The amount of alcohol consumed by a person per week will be measured on an interval scale.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: interval scale, ratio scale

130. The amount of alcohol consumed by a person per week is an example of a continuous variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: continuous random variable

131. The number of defective apples in a single box will be measured on an interval scale.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: interval scale, ratio scale

132. The number of defective apples in a single box is an example of a continuous variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: discrete random variable, continuous random variable

133. The amount of calories contained in a pack of 12-ounce cheese will be measured on a ratio scale.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: ratio scale

134. The amount of calories contained in a pack of 12-ounce cheese is an example of a discrete variable.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: discrete random variable, continuous random variable

135. The amount of time a student spent studying for an exam will be measured on a ratio scale.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: ratio scale

136. The amount of time a student spent studying for an exam is an example of a continuous variable.

ANSWER:

True

TYPE: TF DIFFICULTY: Easy

KEYWORDS: continuous random variable

137. The date when a production line in a factory is out-of-control will be measured with a ratio scale.

ANSWER:

False

TYPE: TF DIFFICULTY: Easy

KEYWORDS: interval scale, ratio scale