

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

- 1) A population is a collection of all individuals, objects, or measurements of interest. 1) _____
Answer: ☒ True ☐ False
- 2) Statistics are used as a basis for making decisions. 2) _____
Answer: ☒ True ☐ False
- 3) A listing of 100 family annual incomes is an example of statistics. 3) _____
Answer: True ☒ False
- 4) The average number of passengers on commercial flights between Chicago and New York City is an example of a statistic. 4) _____
Answer: ☒ True ☐ False
- 5) Statistics is used to report the summary results of market surveys. 5) _____
Answer: ☒ True ☐ False
- 6) A sample is a portion or part of the population of interest. 6) _____
Answer: ☒ True ☐ False
- 7) To infer something about a population, we usually take a sample from the population. 7) _____
Answer: ☒ True ☐ False
- 8) Descriptive statistics are used to find out something about a population based on a sample. 8) _____
Answer: True ☒ False
- 9) There are four levels of measurement: qualitative, quantitative, discrete, and continuous. 9) _____
Answer: True ☒ False
- 10) The ordinal level of measurement is considered the "lowest" level of measurement. 10) _____
Answer: True ☒ False
- 11) A store asks shoppers for their zip codes to identify market areas. Zip codes are an example of ratio data. 11) _____
Answer: True ☒ False
- 12) An ordinal level of measurement implies some sort of ranking. 12) _____
Answer: ☒ True ☐ False
- 13) Data measured on a nominal scale can only be classified into categories. 13) _____
Answer: ☒ True ☐ False

- 14) The terms descriptive statistics and inferential statistics can be used interchangeably. 14) _____
Answer: True ☒ False
- 15) A marketing research agency was hired to test a new DVD player. Consumers rated it outstanding, very good, fair, or poor. The level of measurement for this experiment is ordinal. 15) _____
Answer: ☒ True False
- 16) The Union of Electrical Workers of America with 9,128 members polled 362 members about a new wage package that will be submitted to management. The population is the 362 members. 16) _____
Answer: True ☒ False
- 17) The *CIA World Factbook* cited these numbers for the United States: 17) _____
 - The birthrate is 13.66 births per 1,000 of the population.
 - The average life expectancy for females is 81.17 years.
 - Approximately 316.7 million persons reside in the United States.

Each of these numbers is referred to as a statistic.

Answer: ☒ True False
- 18) If we select 100 persons from 25,000 registered voters and question them about candidates and issues, the 100 persons are referred to as the population. 18) _____
Answer: True ☒ False
- 19) Statistics is defined as a body of techniques used to facilitate the collection, organization, presentation, analysis, and interpretation of information for the purpose of making better decisions. 19) _____
Answer: ☒ True False
- 20) Categorizing voters as Democrats, Republicans, and Independents is an example of interval level measurement. 20) _____
Answer: True ☒ False
- 21) The order in which runners finish in a race would be an example of continuous data. 21) _____
Answer: True ☒ False
- 22) Based on a sample of 3,000 people, the civilian unemployment rate in the United States was 5.5%. 5.5% is referred to as a statistic. 22) _____
Answer: ☒ True False
- 23) The principal difference between the interval and ratio scale is that the ratio scale has a meaningful zero point. 23) _____
Answer: ☒ True False

- 24) The branch of mathematics used to facilitate the collection, organization, presentation, analysis, and interpretation of numerical information is referred to as statistics. 24) _____
Answer: ☒ True False
- 25) The number of children in a family is a discrete variable. 25) _____
Answer: ☒ True False

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

- 26) The main purpose of descriptive statistics is to 26) _____
A) summarize data in a useful and informative manner.
B) make inferences about a population.
C) gather or collect data.
D) determine if the data adequately represent the population.
Answer: A
- 27) Which of the following is an example of a continuous variable? 27) _____
A) Rankings of baseball teams in a league
B) Number of students in a statistics class
C) Tons of concrete to complete a parking garage
D) Zip codes of shoppers
Answer: C
- 28) The incomes of 50 loan applicants are obtained. Which level of measurement is income? 28) _____
A) Ratio B) Nominal C) Interval D) Ordinal
Answer: A
- 29) When TV advertisements report that "2 out of 3 dentists surveyed indicated they would recommend Brand X toothpaste to their patients," an informed consumer may question the conclusion because 29) _____
A) the sample of dentists is clearly explained.
B) the sample was only 5 dentists.
C) the advertisement does not include the total number of dentists surveyed.
D) the conclusion is not illustrated with a graph.
Answer: C
- 30) A bank asks customers to evaluate its drive-through service as good, average, or poor. Which level of measurement is this classification? 30) _____
A) Nominal B) Interval C) Ratio D) Ordinal
Answer: D
- 31) A portion or part of a population is called a 31) _____
A) sample. B) tally.
C) frequency distribution. D) random survey.
Answer: A

32) If Gallup, Harris, and other pollsters asked people to indicate their political party affiliations as Democrat, Republican, or independent, the data gathered would be an example of which scale of measurement? 32) _____

- A) Interval B) Ratio C) Ordinal D) Nominal

Answer: D

33) The members of each basketball team wear numbers on their jerseys. What scale of measurement are these numbers considered? 33) _____

- A) Nominal B) Ratio C) Ordinal D) Interval

Answer: A

34) A marketing class of 50 students evaluated the instructor using the following scale: superior, good, average, poor, or inferior. The descriptive summary showed the following survey results: 2% superior, 8% good, 45% average, 45% poor, and 0% inferior. 34) _____

- A) The instructor's performance was inferior.
B) The instructor's performance was great!
C) Most students rated the instructor as poor or average.
D) No conclusions can be made.

Answer: C

35) A survey includes a question about marital status that has the following responses: single, married, divorced, separated, or widowed. What is the scale of measurement for this question? 35) _____

- A) Nominal B) Interval C) Ratio D) Ordinal

Answer: A

36) Respondents were asked, "Do you now earn more than or less than you did five years ago?" What is this level of measurement? 36) _____

- A) Nominal B) Ratio C) Interval D) Ordinal

Answer: D

37) Which word is NOT part of the definition of descriptive statistics? 37) _____

- A) Summarizing B) Predicting C) Presenting D) Organizing

Answer: B

38) The reported unemployment is 5.5% of the population. What measurement scale is used to measure unemployment? 38) _____

- A) Nominal B) Ordinal C) Ratio D) Interval

Answer: C

39) The Equal Employment Opportunity Act requires employers to classify their employees by gender and national origin. Which level of measurement is this? 39) _____

- A) Nominal B) Ratio C) Ordinal D) Interval

Answer: A

- 40) What level of measurement is the Centigrade temperature scale? 40) _____
 A) Nominal B) Ratio C) Ordinal D) Interval
 Answer: D
- 41) What type of variable is the number of gallons of gasoline pumped by a filling station during a day? 41) _____
 A) Qualitative B) Discrete C) Attribute D) Continuous
 Answer: D
- 42) The performance of personal and business investments is measured as a percentage called "return on investment." What type of variable is "return on investment"? 42) _____
 A) Attribute B) Qualitative C) Continuous D) Discrete
 Answer: C
- 43) What type of variable is the number of robberies reported in your city? 43) _____
 A) Quantitative B) Qualitative C) Attribute D) Continuous
 Answer: A
- 44) What type of variable is the number of auto accidents reported in a given month? 44) _____
 A) Ratio B) Continuous C) Interval D) Discrete
 Answer: D
- 45) The names of the positions in a corporation, such as chief operating officer or controller, are examples of what type of variable? 45) _____
 A) Ratio B) Interval C) Qualitative D) Quantitative
 Answer: C
- 46) What type of variable is "pounds of popcorn" served at a movie theater? 46) _____
 A) Continuous B) Discrete C) Interval D) Ratio
 Answer: A
- 47) The final rankings of the top 20 NCAA college basketball teams are an example of which level of measurement? 47) _____
 A) Ordinal B) Interval C) Nominal D) Ratio
 Answer: A
- 48) Your height and weight are examples of which level of measurement? 48) _____
 A) Interval B) Nominal C) Ratio D) Ordinal
 Answer: C
- 49) Shoe style is an example of what level of measurement? 49) _____
 A) Ordinal B) Interval C) Nominal D) Ratio
 Answer: C

- 50) The general process of gathering, organizing, summarizing, analyzing, and interpreting data is called 50) _____
A) inferential statistics. B) levels of measurement.
C) descriptive statistics. D) statistics.
Answer: D
- 51) The Nielsen Ratings break down the number of people watching a particular television show by age. What level of measurement is age? 51) _____
A) Interval B) Ratio C) Nominal D) Ordinal
Answer: B
- 52) An example of a qualitative variable is 52) _____
A) weight of a person. B) color of ink in a pen.
C) miles between oil changes. D) number of children in a family.
Answer: B
- 53) Which one of the following is NOT an example of discrete data? 53) _____
A) Number of households watching the Home Shopping Network
B) Number of members of the Denver Lions Club
C) Number of miles between New York City and Chicago
D) Number of employees reporting in sick
Answer: C
- 54) What level of measurement is a person's "favorite sport"? 54) _____
A) Ordinal B) Interval C) Ratio D) Nominal
Answer: D
- 55) A group of women tried five brands of fingernail polish and ranked them according to preference. What level of measurement is this? 55) _____
A) Interval B) Ratio C) Ordinal D) Nominal
Answer: C
- 56) A university wishes to conduct a student survey. In one of the questions students are asked to mark their gender as either male or female. Gender is an example of the 56) _____
A) nominal scale. B) ratio scale.
C) interval scale. D) ordinal scale.
Answer: A
- 57) Income is a variable often used in business and economics. Income is an example of a variable that uses the 57) _____
A) ordinal scale. B) interval scale.
C) ratio scale. D) nominal scale.
Answer: C

58) When statisticians analyze sample data in order to draw conclusions about the characteristics of a population, this is referred to as

58) _____

A) descriptive statistics.

B) statistical inference.

C) data summarization.

D) data analysis.

Answer: B

59) The length of a bridge, measured in meters, is an example of

59) _____

A) quantitative data.

B) either categorical or quantitative data.

C) measurement data.

D) categorical data.

Answer: A