***Basic Statistics for Business and Economics, 9e* (Lind)**

**Chapter 1 What is Statistics?**

1) A population is an entire set of individuals, objects, or measurements of interest.

Answer: TRUE

Explanation: This is the definition of a population.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

2) Statistics are used as a basis for making decisions.

Answer: TRUE

Explanation: This is the ultimate purpose of statistics. After we organize, summarize, and analyze data, we make decisions based on our summaries and analysis.

Difficulty: 1 Easy

Topic: Why Study Statistics?

Learning Objective: 01-01 Explain why knowledge of statistics is important.

Bloom's: Remember

AACSB: Communication

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3) A listing of 100 family annual incomes is an example of statistics.

Answer: FALSE

Explanation: A listing of incomes is raw data. Statistics is used to organize, summarize, and present the data.

Difficulty: 1 Easy

Topic: What is Meant by Statistics?

Learning Objective: 01-02 Define statistics and provide an example of how statistics is applied.

Bloom's: Remember

AACSB: Communication

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4) The average number of passengers on commercial flights between Chicago and New York City is an example of a statistic.

Answer: TRUE

Explanation: A statistic is a number used to communicate a piece of information. Statistics is defined as a science of collecting, organizing, presenting, analyzing, and interpreting data to assist in making more effective decisions. Raw data would be a list of all commercial flights between the two cities and the number of passengers on each, while statistics would take that raw data and create summary measures, such as determining the mean or average for these flights.

Difficulty: 1 Easy

Topic: What is Meant by Statistics?

Learning Objective: 01-02 Define statistics and provide an example of how statistics is applied.

Bloom's: Remember

AACSB: Communication

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5) Statistics is used to report the summary results of market surveys.

Answer: TRUE

Explanation: Statistics is defined as a science of collecting, organizing, presenting, analyzing, and interpreting data to assist in making more effective decisions. While we could look at all the individual survey results, summarizing the results is helpful if we wish to make decisions.

Difficulty: 1 Easy

Topic: What is Meant by Statistics?

Learning Objective: 01-02 Define statistics and provide an example of how statistics is applied.

Bloom's: Remember

AACSB: Communication

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6) A sample is a portion or part of the population of interest.

Answer: TRUE

Explanation: This is the definition of a sample.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

7) To infer something (i.e. estimate properties) about a population, we usually take a sample from the population.

Answer: TRUE

Explanation: This is the purpose of inferential statistics, where we estimate or infer something about a population based on a sample taken from that population.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

8) Descriptive statistics are used to find out something about a population based on a sample.

Answer: FALSE

Explanation: Inferential statistics uses sampling to estimate a property of a population.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

9) There are four levels of measurement: qualitative, quantitative, discrete, and continuous.

Answer: FALSE

Explanation: These are types of variables, not levels of measurement. The four levels of measurement are nominal, ordinal, interval, and ratio. The items listed in the question (qualitative, quantitative, discrete, and continuous) are types of variables.

Difficulty: 1 Easy

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

10) The ordinal level of measurement is considered the "lowest", or the most primitive, level of measurement.

Answer: FALSE

Explanation: The nominal scale is the "lowest" level of measurement. Data recorded at the nominal level of measurement is represented as labels or names.

Difficulty: 1 Easy

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Remember

AACSB: Communication

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11) A store asks shoppers for their zip codes to identify market areas. Zip codes are an example of ratio data.

Answer: FALSE

Explanation: While zip codes use numbers, they are only labels. Therefore, they represent a nominal level of measurement.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

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12) An ordinal level of measurement implies some sort of ranking.

Answer: TRUE

Explanation: If a qualitative variable or attribute can be ranked or rated on a relative scale, it is the ordinal level of measurement rather than the nominal level of measurement. An example of the ordinal level would be a survey in which service is classified as either poor, average, or exceptional.

Difficulty: 1 Easy

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

13) Data measured on a nominal scale can only be qualitative variables that are measured and recorded as labels or names.

Answer: TRUE

Explanation: Nominal level data can only be put into categories. An example would be car color: you can create a list of colors, but the order in which the color is presented is not relevant. In contrast, qualitative data that can be put into ordered categories based on some sort of ranking is at the ordinal level. An example would be a survey in which service is classified as poor, average, or exceptional.

Difficulty: 1 Easy

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

14) The terms descriptive statistics and inferential statistics can be used interchangeably.

Answer: FALSE

Explanation: Descriptive statistics are used to organize, summarize, and present data. Inferential statistics use sample information to make inferences about a population.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

15) A marketing research agency was hired to test a new device. Consumers rated it outstanding, very good, fair, or poor. The level of measurement for this experiment is ordinal.

Answer: TRUE

Explanation: Qualitative data that can be put into ordered categories based on some sort of ranking is ordinal level of measurement. In this case, outstanding is superior to very good, very good is superior to fair, and fair is superior to poor.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

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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.

Answer: FALSE

Explanation: The 362 members are a sample or portion of the population. All 9,128 union members represent the population.

Difficulty: 2 Medium

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

17) The *CIA World Factbook* cited these numbers for the United States:

* 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

Explanation: A statistic is a number used to communicate a piece of information. Each of the statistics provided in this list is a summary of the data for the population.

Difficulty: 1 Easy

Topic: What is Meant by Statistics?

Learning Objective: 01-02 Define statistics and provide an example of how statistics is applied.

Bloom's: Remember

AACSB: Communication

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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.

Answer: FALSE

Explanation: These 100 people are a sample of the population of 25,000 registered voters.

Difficulty: 2 Medium

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

19) Statistics is defined as the science of collecting, organizing, presenting, analyzing, and interpreting data to assist in making more effective decisions.

Answer: TRUE

Explanation: This is the definition of the term statistics.

Difficulty: 1 Easy

Topic: What is Meant by Statistics?

Learning Objective: 01-02 Define statistics and provide an example of how statistics is applied.

Bloom's: Remember

AACSB: Communication

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20) Categorizing voters as Democrats, Republicans, and Independents is an example of interval level measurement.

Answer: FALSE

Explanation: Political party is a label that corresponds to a nominal level of measurement.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

21) The order in which runners finish in a race would be an example of a continuous variable.

Answer: FALSE

Explanation: The order in which runners finish a race is an example of a discrete variable.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

22) Based on a sample of 3,000 people, the civilian unemployment rate in the United States was 5.5%. The rate of 5.5% is referred to as a statistic.

Answer: TRUE

Explanation: The unemployment rate is a single summary statistic used to convey information about the population.

Difficulty: 1 Easy

Topic: What is Meant by Statistics?

Learning Objective: 01-02 Define statistics and provide an example of how statistics is applied.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

23) The principal difference between the interval and ratio scale is that the ratio scale has a meaningful zero point.

Answer: TRUE

Explanation: This is the principal difference between interval and ratio level data. Interval level data has no true zero, so zero is just a point on a scale rather than the absence of something. Ratio level data has a true zero point, so zero means the absence of something. For example, if you have a zero balance in your savings account, it means you have no money saved.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

24) The science of collecting, organizing, presenting, analyzing, and interpreting data to assist in making more effective decisions is referred to as statistics.

Answer: TRUE

Explanation: This is another possible definition of statistics.

Difficulty: 1 Easy

Topic: What is Meant by Statistics?

Learning Objective: 01-02 Define statistics and provide an example of how statistics is applied.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

25) The number of children in a family is a discrete variable.

Answer: TRUE

Explanation: Discrete variables have gaps between the values. A family will have zero, one, two, or more children. An individual family cannot have values between those gaps, such as 1.5 children.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

26) The main purpose of descriptive statistics is to

A) organize, summarize, and present data in an informative way.

B) make inferences about a population.

C) determine if the data adequately represent the population.

D) gather or collect data.

Answer: A

Explanation: Descriptive statistics summarize existing data. It does not collect new data or draw conclusions about a population.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

27) 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

Answer: A

Explanation: A continuous variable assumes any value within a range. Number of students, zip codes, and rankings have "gaps" between the values and hence are not continuous.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

28) The incomes of 50 loan applicants are obtained. Which level of measurement is income?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: D

Explanation: Incomes are measured on a ratio scale because the variable has a zero point (no income) and the ratio between two values is meaningful.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

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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 the \_\_\_\_\_\_\_\_.

A) sample was only 5 dentists

B) sample of dentists is clearly explained

C) advertisement does not include the total number of dentists surveyed

D) conclusion is not illustrated with a graph

Answer: C

Explanation: The ad implies that most dentists would recommend the product. However, without knowing anything about how many dentists were selected, and how they were selected, it would be difficult to accept the results of the survey.

Difficulty: 2 Medium

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

30) A bank asks customers to evaluate its drive-through service as good, average, or poor. Which level of measurement is this classification?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: B

Explanation: Ordinal is the correct answer because a "good" response is better than an "average" one. However, the difference between the responses is not a constant size.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

31) A portion or part of a population is called a \_\_\_\_\_\_\_\_.

A) random survey

B) sample

C) tally

D) frequency distribution

Answer: B

Explanation: A sample is a subset of the population of interest.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

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?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: A

Explanation: Political party affiliation is measured with a label or name and therefore is nominal. It is a categorization with no natural order and cannot be ranked or ordered.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

33) Basketball players wear numbers on their jerseys. What scale of measurement are the numbers?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: A

Explanation: Jersey numbers are labels for identification purposes only. These labels have no natural order and cannot be ranked or ordered.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

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. What is the correct conclusion for this summary?

A) The instructor's performance was great!

B) The instructor's performance was inferior.

C) Most students rated the instructor as poor or average.

D) No conclusions can be made.

Answer: C

Explanation: The percentages indicate that 90% of the 50 students rated the instructor as average or poor. No students rated the instructor as inferior. "Great" was not measured.

Difficulty: 2 Medium

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

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?

A) Ratio

B) Interval

C) Ordinal

D) Nominal

Answer: D

Explanation: Marital status is nominal because it has no natural order and cannot be ranked or ordered.

Difficulty: 1 Easy

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

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

A) Interval

B) Ratio

C) Nominal

D) Ordinal

Answer: C

Explanation: The survey asks for a relative measure of income today in comparison to five years ago. The response is either "more" or "less." There is no absolute measure of income to compute how much more or less is earned, and therefore this is a nominal level of measurement.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

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

A) Organizing

B) Summarizing

C) Presenting

D) Predicting

Answer: D

Explanation: In descriptive statistics, we organize, summarize, and present data. We do not predict.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

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

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: D

Explanation: Unemployment percentages have a true zero point (no unemployment), and the ratio between two values is meaningful. Consequently, this is ratio level data.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

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

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: A

Explanation: Gender and national origin are labels with no natural order and cannot be ranked or ordered.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

40) What level of measurement is the Centigrade temperature scale?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: C

Explanation: Temperature can be ranked and the distance between temperatures can be computed, but there is no "absence of temperature" at zero on the Centigrade scale. It would still be cold!

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

41) What type of variable is the number of gallons of gasoline pumped by a filling station during a day?

A) Qualitative

B) Continuous

C) Attribute

D) Discrete

Answer: B

Explanation: The number of gallons pumped is a numerical variable that can assume any value within a range. There are no gaps in the scale, so the data are continuous.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

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"?

A) Qualitative

B) Continuous

C) Attribute

D) Discrete

Answer: B

Explanation: "Return on investment" can assume any value within a range. There are no gaps in the scale, so the data are continuous.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

43) What type of variable is the number of robberies reported in your city?

A) Attribute

B) Continuous

C) Quantitative

D) Qualitative

Answer: C

Explanation: The number of robberies is counted and must be a whole number, such as 0, 500, or 3,125,874.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

44) What type of variable is the number of auto accidents reported in a given month?

A) Interval

B) Ratio

C) Continuous

D) Discrete

Answer: D

Explanation: The number of auto accidents is counted and must be a whole number, such as 0, 500, or 3,125,874.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

45) The names of the positions in a corporation, such as chief operating officer or controller, are examples of what type of variable?

A) Qualitative

B) Quantitative

C) Interval

D) Ratio

Answer: A

Explanation: The variable, job title, is qualitative.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

46) What type of variable is "pounds of popcorn" served at a movie theater?

A) Interval

B) Ratio

C) Discrete

D) Continuous

Answer: D

Explanation: "Pounds of popcorn" can assume any value within a range, and there are no gaps in the scale.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

47) The final rankings of the top 20 NCAA college basketball teams are an example of which level of measurement?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: B

Explanation: While the rankings indicate which team is better than another, they do not measure how much better a team is relative to another.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

48) Height and weight are examples of which level of measurement?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: D

Explanation: Height and weight are ratio variables that have a zero point, and the ratio between two values is meaningful.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

49) Shoe style is an example of what level of measurement?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: A

Explanation: Shoe style is a nominal variable because it is a label with no natural order and cannot be ranked or ordered.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

50) The general process of gathering, organizing, summarizing, analyzing, and interpreting data is called

A) statistics.

B) descriptive statistics.

C) inferential statistics.

D) levels of measurement.

Answer: A

Explanation: Statistics is the science of collecting, organizing, presenting, analyzing, and interpreting data to assist in making more effective decisions.

Difficulty: 1 Easy

Topic: What is Meant by Statistics?

Learning Objective: 01-02 Define statistics and provide an example of how statistics is applied.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

51) The Nielsen Ratings break down the number of people watching a particular television show by age. What level of measurement is age?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: D

Explanation: Age is a ratio variable because it has a zero point, and the ratio between two values is meaningful.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

52) \_\_\_\_\_\_ is an example of a qualitative variable.

A) Number of children in a family

B) Weight of a person

C) Color of ink in a pen

D) Miles between oil changes

Answer: C

Explanation: Color is a qualitative variable because it is an attribute that can be observed but not measured.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

53) Which one of the following is NOT an example of discrete data?

A) Households watching the Home Shopping Network

B) Employees reporting in sick

C) Distance between New York City and Chicago

D) Members of the Denver Lions Club

Answer: C

Explanation: Discrete variables can assume only certain values, and there are gaps between the values. Miles are not discrete because they can be measured with any number of decimal point values.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

54) What level of measurement is a person's "favorite sport"?

A) Ratio

B) Ordinal

C) Interval

D) Nominal

Answer: D

Explanation: The variable, a person's "favorite sport," is a label with no natural order and cannot be ranked or ordered.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

55) A group of women tried five brands of fingernail polish and ranked them according to preference. What level of measurement is this?

A) Nominal

B) Ordinal

C) Interval

D) Ratio

Answer: B

Explanation: The rankings are ordinal. While the rankings indicate which brand is preferred over another, they do not measure how much more they are preferred.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

56) A university wishes to conduct a student survey. In one of the questions students are asked to mark their gender. Gender is an example of the \_\_\_\_\_\_\_\_.

A) ordinal scale

B) nominal scale

C) ratio scale

D) interval scale

Answer: B

Explanation: Gender is a nominal variable because you can only classify the students into categories, and these categories have no natural order or ranking.

Difficulty: 2 Medium

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation

57) Income is a variable often used in business and economics. Income is an example of a variable that uses the \_\_\_\_\_\_\_\_.

A) ordinal scale

B) nominal scale

C) ratio scale

D) interval scale

Answer: C

Explanation: Income has a meaningful zero and the ratio between two values is meaningful, so it is ratio level data.

Difficulty: 1 Easy

Topic: Levels of Measurement

Learning Objective: 01-05 Distinguish between nominal, ordinal, interval, and ratio levels of measurement.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

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

A) descriptive statistics

B) inferential statistics

C) data analysis

D) data summarization

Answer: B

Explanation: This is the definition of inferential statistics, in which we infer population parameters based on a sample taken from that population.

Difficulty: 1 Easy

Topic: Types of Statistics

Learning Objective: 01-03 Differentiate between descriptive and inferential statistics.

Bloom's: Remember

AACSB: Communication

Accessibility: Keyboard Navigation

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

A) categorical data

B) either categorical or quantitative data

C) measurement data

D) quantitative data

Answer: D

Explanation: Measurements are quantitative data because the results are numerical and the numbers have meaning. Qualitative data is based on counting how many items fall into particular categories or classifications. An example would be counting the number of students in a class with various eye colors.

Difficulty: 2 Medium

Topic: Types of Variables

Learning Objective: 01-04 Classify variables as qualitative or quantitative, and discrete or continuous.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation