**Chapter 01 Test Bank Static KEY**

|  |  |
| --- | --- |
| 1.  | A population is a set of existing units.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-07 Describe the difference between a population and a sample.Topic: Populations, Samples, and Traditional Statistics* |
| 2.  | If we examine some of the population measurements, we are conducting a census of the population.  |

**FALSE**

A census is defined as examining all of the population measurements.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-07 Describe the difference between a population and a sample.Topic: Populations, Samples, and Traditional Statistics* |

|  |  |
| --- | --- |
| 3.  | A random sample is selected so that every element in the population has the same chance of being included in the sample.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 4.  | An example of a quantitative variable is the manufacturer of a car.  |

**FALSE**

This is an example of a qualitative or categorical variable.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable.Topic: Data* |

|  |  |
| --- | --- |
| 5.  | An example of a qualitative variable is the mileage of a car.  |

**FALSE**

This is an example of a quantitative variable.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable.Topic: Data* |
| 6.  | Statistical inference is the science of using a sample of measurements to make generalizations about the important aspects of a population of measurements.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-08 Distinguish between descriptive statistics and statistical inference.Topic: Populations, Samples, and Traditional Statistics* |

|  |  |
| --- | --- |
| 7.  | Time series data are data collected at the same time period.   |

**FALSE**

Time series data are collected over different time periods.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-03 Describe the difference between cross-sectional data and time series data.Topic: Data* |
| 8.  | Cross-sectional data are data collected at the same point in time.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-03 Describe the difference between cross-sectional data and time series data.Topic: Data* |

|  |  |
| --- | --- |
| 9.  | Daily temperature in a local community collected over a 30-day time period is an example of cross-sectional data.  |

**FALSE**

Cross-sectional data are collected at the same point in time. This is an example of time series data.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-03 Describe the difference between cross-sectional data and time series data.Topic: Data* |
| 10.  | The number of sick days taken by employees in 2008 for the top 10 technology companies is an example of time series data.  |

**FALSE**

This is an example of cross-sectional data. Time series data are collected at different time periods.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-03 Describe the difference between cross-sectional data and time series data.Topic: Data* |

|  |  |
| --- | --- |
| 11.  | The number of sick days per month taken by employees for the last 10 years at Apex Co. is an example of time series data.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-03 Describe the difference between cross-sectional data and time series data.Topic: Data* |
| 12.  | A quantitative variable can also be referred to as a categorical variable.  |

**FALSE**

Qualitative variables are also known as categorical variables.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable.Topic: Data* |

|  |  |
| --- | --- |
| 13.  | In a data set of information on college business students, an example of an element is their cumulative GPA.  |

**FALSE**

The element is college business students. The cumulative GPA is an example of a variable, which is a characteristic of the element college business students.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-01 Define a variable.Topic: Data* |
| 14.  | In an observational study, the variable of interest is called a response variable.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |

|  |  |
| --- | --- |
| 15.  | In an experimental study, the aim is to manipulate or set the value of the response variable.   |

**FALSE**

In experimental studies, the aim is to manipulate the factor, which is related to the response variable.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |
| 16.  | The science of describing the important aspects of a set of measures is called statistical inference.  |

**FALSE**

This is the definition of descriptive statistics. Statistical inference is the science of using a sample of measurements to make generalizations about the population of measurements.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-08 Distinguish between descriptive statistics and statistical inference.Topic: Populations, Samples, and Traditional Statistics* |

|  |  |
| --- | --- |
| 17.  | It is possible to use a random sample from a population to make statistical inferences about the entire population.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-08 Distinguish between descriptive statistics and statistical inference.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 18.  | Processes produce outputs over time.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 19.  | Selecting many different samples and running many different tests can eventually produce a result that makes a desired conclusion be true.  |

**FALSE**

Using different samples and tests to produce a desired conclusion does not make the conclusion true.

|  |
| --- |
| *AACSB: Analytical ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 20.  | Using a nonrandom sample procedure in order to support a desired conclusion is an example of an unethical statistical procedure.  |

**TRUE**

|  |
| --- |
| *AACSB: Analytical ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 21.  | Primary data are data collected by an individual.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |
| 22.  | Secondary data are data taken from an existing source.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |

|  |  |
| --- | --- |
| 23.  | Data warehousing is defined as a process of centralized data management and retrieval.   |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-06 Describe the basic ideas of data warehousing and big data.Topic: Data Sources, Data Warehousing, and Big Data* |
| 24.  | The term *big data* was derived from the use of survey data.  |

**FALSE**

*Big data* is a term derived from the huge capacity of data warehouses that contain massive amounts of data.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-06 Describe the basic ideas of data warehousing and big data.Topic: Data Sources, Data Warehousing, and Big Data* |

|  |  |
| --- | --- |
| 25.  | In order to select a stratified random sample, we divide the population into overlapping groups of similar elements.  |

**FALSE**

A stratified random sample is created by dividing the population into non-overlapping groups.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-13 Describe the basic ideas of stratified random, cluster, and systematic sampling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 26.  | If we sample without replacement, we do not place the unit chosen on a particular selection back into the population.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 27.  | By taking a systematic sample in which we select every 100th shopper arriving at a specific store, we are approximating a random sample of shoppers.   |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 28.  | A common practice in selecting a sample from a large geographic area is multistage cluster sampling.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-13 Describe the basic ideas of stratified random, cluster, and systematic sampling.Topic: Stratified Random, Cluster, and Systematic Sampling* |

|  |  |
| --- | --- |
| 29.  | Stratification can at times be combined with multistage cluster sampling to develop an appropriate sample.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-13 Describe the basic ideas of stratified random, cluster, and systematic sampling.Topic: Stratified Random, Cluster, and Systematic Sampling* |
| 30.  | In systematic sampling, the first element is randomly selected from the first (*N*/*n*) elements.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 3 HardLearning Objective: 01-13 Describe the basic ideas of stratified random, cluster, and systematic sampling.Topic: Stratified Random, Cluster, and Systematic Sampling* |

|  |  |
| --- | --- |
| 31.  | Sampling error can occur because of incomplete information.   |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |
| 32.  | The target population is the result of sampling from the original population that is of interest to the researcher.  |

**FALSE**

Target population is the entire population of interest.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |

|  |  |
| --- | --- |
| 33.  | Errors of non-observation occur when data values are recorded incorrectly.  |

**FALSE**

Errors of non-observation relate to population elements that are not observed.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |
| 34.  | A recording error is an error of observation.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |

|  |  |
| --- | --- |
| 35.  | A low response rate has no effect on the validity of a survey's findings.  |

**FALSE**

Low response rates do affect the validity of a survey's results.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |
| 36.  | Sampling error occurs because a mean of a random sample can not exactly equal the population mean that we are attempting to estimate.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 37.  | A statistical model is a set of assumptions based solely on the sample data that have been selected.  |

**FALSE**

A statistical model is a set of assumptions about how the sample data are selected and about the population from which the sample data are selected.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 38.  | Judgment sampling is an example of convenience sampling.  |

**FALSE**

Judgment sampling has an extremely knowledgeable individual select the sample. Voluntary sampling occurs when participants self-select, which is a form of convenience sampling, where elements are selected because they are easy or convenient to sample.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 39.  | Judgment sampling occurs when a person who is extremely knowledgeable about the population under consideration selects the population element(s) that they feel is(are) most representative of the population.  |

**TRUE**

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 40.  | Business analytics uses methods that are not part of traditional statistics to look at big data.  |

**FALSE**

Business analytics is an extension of traditional statistics.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-11 Explain some of the uses of business analytics and data mining.Topic: Business Analytics and Data Mining* |

|  |  |
| --- | --- |
| 41.  | Prescriptive analytics involve methods used to find anomalies, patterns, and associations in data sets with the purpose of predicting future outcomes.  |

**FALSE**

This is the definition of predictive analytics. Prescriptive analytics uses results from predictive analytics to recommend courses of action within the business

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-11 Explain some of the uses of business analytics and data mining.Topic: Business Analytics and Data Mining* |
| 42.  | A population that consists of all the customers who will use the drive-thru of the local fast food restaurant is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| A.   | infinite population |

|  |  |
| --- | --- |
| B.   | random sample population |

|  |  |
| --- | --- |
| C.   | statistical population |

|  |  |
| --- | --- |
| **D.**   | finite population |

It is a finite population because only a finite number of customers will use the drive-thru. An infinite population would be defined as the theoreticalpotential number of customers.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 43.  | A \_\_\_\_\_\_\_\_\_\_\_\_ is a set of assumptions about how sample data are selected and about the population from which the sample data are selected.  |

|  |  |
| --- | --- |
| A.   | random sampling |

|  |  |
| --- | --- |
| **B.**   | statistical model |

|  |  |
| --- | --- |
| C.   | descriptive statistics |

|  |  |
| --- | --- |
| D.   | probability sampling |

Random sampling, descriptive statistics, and probability sampling are methods/processes in statistics.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 44.  | \_\_\_\_\_\_\_\_\_\_\_ sampling is where we know the chance that each element will be included in the sample, which allows us to make statistical inferences about the sample population.  |

|  |  |
| --- | --- |
| A.   | Convenience |

|  |  |
| --- | --- |
| B.   | Voluntary |

|  |  |
| --- | --- |
| **C.**   | Probability |

|  |  |
| --- | --- |
| D.   | Judgment |

Convenience, voluntary, and judgment sampling should not be used to make valid statistical inferences about a population.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 45.  | Which of the following is not a method of predictive analytics?  |

|  |  |
| --- | --- |
| A.   | factor detection |

|  |  |
| --- | --- |
| B.   | outlier detection |

|  |  |
| --- | --- |
| **C.**   | bullet graphs |

|  |  |
| --- | --- |
| D.   | association learning |

Bullet graphs are a method of descriptive analytics.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-11 Explain some of the uses of business analytics and data mining.Topic: Business Analytics and Data Mining* |
| 46.  | \_\_\_\_\_\_\_\_\_ uses traditional or newer graphics to present visual summaries of business information.  |

|  |  |
| --- | --- |
| A.   | Predictive analytics |

|  |  |
| --- | --- |
| B.   | Data mining |

|  |  |
| --- | --- |
| C.   | Association learning |

|  |  |
| --- | --- |
| **D.**   | Descriptive analytics |

Predictive analytics uses data mining to predict future outcomes. Association learning is a method of data mining.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-11 Explain some of the uses of business analytics and data mining.Topic: Business Analytics and Data Mining* |

|  |  |
| --- | --- |
| 47.  | Which of the following is not a supervised learning technique in predictive analytics?  |

|  |  |
| --- | --- |
| A.   | linear regression |

|  |  |
| --- | --- |
| **B.**   | factor analysis |

|  |  |
| --- | --- |
| C.   | decision trees |

|  |  |
| --- | --- |
| D.   | neural networks |

Factor analysis is an unsupervised learning technique because there is no specific response variable involved, which is a requirement for a supervised learning technique.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-11 Explain some of the uses of business analytics and data mining.Topic: Business Analytics and Data Mining* |
| 48.  | Transactional data are now used by businesses as part of  |

|  |  |
| --- | --- |
| A.   | survey analysis. |

|  |  |
| --- | --- |
| **B.**   | big data. |

|  |  |
| --- | --- |
| C.   | descriptive statistics. |

|  |  |
| --- | --- |
| D.   | experimental studies. |

By definition, big data are collected by business for effective decision making.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-06 Describe the basic ideas of data warehousing and big data.Topic: Data Sources, Data Warehousing, and Big Data* |

|  |  |
| --- | --- |
| 49.  | \_\_\_\_\_\_\_\_\_\_ consists of a set of concepts and techniques that are used to describe populations and samples.  |

|  |  |
| --- | --- |
| **A.**   | Traditional statistics |

|  |  |
| --- | --- |
| B.   | Random sampling |

|  |  |
| --- | --- |
| C.   | Data mining |

|  |  |
| --- | --- |
| D.   | Time series analysis |

Definition of traditional statistics.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-08 Distinguish between descriptive statistics and statistical inference.Topic: Populations, Samples, and Traditional Statistics* |
| 50.  | When we are choosing a random sample and we do not place chosen units back into the population, we are  |

|  |  |
| --- | --- |
| A.   | sampling with replacement. |

|  |  |
| --- | --- |
| **B.**   | sampling without replacement. |

|  |  |
| --- | --- |
| C.   | using a systematic sample. |

|  |  |
| --- | --- |
| D.   | using a voluntary response sample. |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 51.  | Which of the following is a type of question used in survey research?  |

|  |  |
| --- | --- |
| A.   | dichotomous |

|  |  |
| --- | --- |
| B.   | free response |

|  |  |
| --- | --- |
| C.   | rating |

|  |  |
| --- | --- |
| **D.**   | All of the other answers are correct. |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |
| 52.  | Methods for obtaining a sample are called  |

|  |  |
| --- | --- |
| A.   | sample surveys. |

|  |  |
| --- | --- |
| B.   | probability sampling. |

|  |  |
| --- | --- |
| C.   | random sampling. |

|  |  |
| --- | --- |
| **D.**   | sampling designs. |

Sample survey is the result of sampling designs. Probability and random sampling are not methods of obtaining a sample.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-13 Describe the basic ideas of stratified random, cluster, and systematic sampling.Topic: Stratified Random, Cluster, and Systematic Sampling* |

|  |  |
| --- | --- |
| 53.  | A \_\_\_\_\_ is a list of all the units in a population.  |

|  |  |
| --- | --- |
| A.   | sample |

|  |  |
| --- | --- |
| **B.**   | frame |

|  |  |
| --- | --- |
| C.   | census |

|  |  |
| --- | --- |
| D.   | variable |

A sample can be only a part of a population; a census is the examination of the population and variable is a characteristic of an element of the population.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 54.  | Non-overlapping groups in random sampling of a population are called  |

|  |  |
| --- | --- |
| A.   | clusters. |

|  |  |
| --- | --- |
| B.   | frames. |

|  |  |
| --- | --- |
| **C.**   | strata. |

|  |  |
| --- | --- |
| D.   | stages. |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 3 HardLearning Objective: 01-13 Describe the basic ideas of stratified random, cluster, and systematic sampling.Topic: Stratified Random, Cluster, and Systematic Sampling* |

|  |  |
| --- | --- |
| 55.  | A *Yes* or *No* question is \_\_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| **A.**   | dichotomous |

|  |  |
| --- | --- |
| B.   | evaluative |

|  |  |
| --- | --- |
| C.   | open-ended |

|  |  |
| --- | --- |
| D.   | systematic |

Dichotomous questions consist of only two possible responses.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |
| 56.  | \_\_\_\_\_\_\_\_\_\_\_\_\_ occurs when some population elements are excluded from the process of selecting the sample.  |

|  |  |
| --- | --- |
| A.   | Non-response |

|  |  |
| --- | --- |
| B.   | Error of observation |

|  |  |
| --- | --- |
| **C.**   | Undercoverage |

|  |  |
| --- | --- |
| D.   | Sampling error |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |

|  |  |
| --- | --- |
| 57.  | \_\_\_\_\_\_\_\_\_\_\_\_\_ is the difference between a numerical description of the population and the corresponding descriptor of the sample.  |

|  |  |
| --- | --- |
| **A.**   | Sampling error |

|  |  |
| --- | --- |
| B.   | Non-observation error |

|  |  |
| --- | --- |
| C.   | Observation error |

|  |  |
| --- | --- |
| D.   | Non-response |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error.Topic: More about Surveys and Errors in Survey Sampling* |
| 58.  | Data that are collected by an individual through personally planned experimentation or observation are \_\_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| A.   | secondary data |

|  |  |
| --- | --- |
| B.   | quantitative data |

|  |  |
| --- | --- |
| **C.**   | primary data |

|  |  |
| --- | --- |
| D.   | variables |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |

|  |  |
| --- | --- |
| 59.  | A ratio variable has the following characteristic.  |

|  |  |
| --- | --- |
| A.   | meaningful order |

|  |  |
| --- | --- |
| **B.**   | inherently defined zero value |

|  |  |
| --- | --- |
| C.   | categorical in nature |

|  |  |
| --- | --- |
| D.   | predictable |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |
| 60.  | Which of the following is a quantitative variable?  |

|  |  |
| --- | --- |
| A.   | the manufacturer of a cell phone |

|  |  |
| --- | --- |
| B.   | a person's gender |

|  |  |
| --- | --- |
| **C.**   | mileage of a car |

|  |  |
| --- | --- |
| D.   | whether a person is a college graduate |

|  |  |
| --- | --- |
| E.   | whether a person has a charge account |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable.Topic: Data* |

|  |  |
| --- | --- |
| 61.  | Which of the following is a categorical variable?  |

|  |  |
| --- | --- |
| A.   | air temperature |

|  |  |
| --- | --- |
| B.   | bank account balance |

|  |  |
| --- | --- |
| C.   | daily sales in a store |

|  |  |
| --- | --- |
| **D.**   | whether a person has a traffic violation |

|  |  |
| --- | --- |
| E.   | value of company stock |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable.Topic: Data* |
| 62.  | Measurements from a population are called  |

|  |  |
| --- | --- |
| A.   | elements. |

|  |  |
| --- | --- |
| **B.**   | observations. |

|  |  |
| --- | --- |
| C.   | variables. |

|  |  |
| --- | --- |
| D.   | processes. |

By definition, elements and variables are the same; processes are not measurements.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-07 Describe the difference between a population and a sample.Topic: Populations, Samples, and Traditional Statistics* |
| 63.  | The two types of quantitative variables are  |
|  |  |

|  |  |
| --- | --- |
| A.   | ordinal and ratio. |

|  |  |
| --- | --- |
| B.   | interval and ordinal. |

|  |  |
| --- | --- |
| C.   | nominative and ordinal. |

|  |  |
| --- | --- |
| **D.**   | interval and ratio. |

|  |  |
| --- | --- |
| E.   | nominative and interval. |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |
| 64.  | Temperature (in degrees Fahrenheit) is an example of a(n) \_\_\_\_\_\_\_\_\_\_ variable.  |

|  |  |
| --- | --- |
| A.   | nominative |

|  |  |
| --- | --- |
| B.   | ordinal |

|  |  |
| --- | --- |
| **C.**   | interval |

|  |  |
| --- | --- |
| D.   | ratio |

Temperature is quantitative (excludes nominative and ordinal), and the ratio of two temperatures is not meaningful.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |

|  |  |
| --- | --- |
| 65.  | Jersey numbers of soccer players is an example of a(n) \_\_\_\_\_\_\_\_\_\_\_ variable.  |

|  |  |
| --- | --- |
| **A.**   | nominative |

|  |  |
| --- | --- |
| B.   | ordinal |

|  |  |
| --- | --- |
| C.   | interval |

|  |  |
| --- | --- |
| D.   | ratio |

Interval and ratio are quantitative variables; jersey numbers have no logical order.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |
| 66.  | The weight of a chemical compound used in an experiment that is obtained using a well-adjusted scale represents a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_ level of measurement.  |

|  |  |
| --- | --- |
| A.   | nominative |

|  |  |
| --- | --- |
| B.   | ordinal |

|  |  |
| --- | --- |
| C.   | interval |

|  |  |
| --- | --- |
| **D.**   | ratio |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |

|  |  |
| --- | --- |
| 67.  | An identification of police officers by rank would represent a(n) \_\_\_\_\_\_\_\_\_\_\_\_ level of measurement.  |

|  |  |
| --- | --- |
| A.   | nominative |

|  |  |
| --- | --- |
| **B.**   | ordinal |

|  |  |
| --- | --- |
| C.   | interval |

|  |  |
| --- | --- |
| D.   | ratio |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |
| 68.  | \_\_\_\_\_\_\_\_\_\_ is a necessary component of a runs plot.  |

|  |  |
| --- | --- |
| **A.**   | Observation over time |

|  |  |
| --- | --- |
| B.   | Qualitative variable |

|  |  |
| --- | --- |
| C.   | Random sampling of the data |

|  |  |
| --- | --- |
| D.   | Cross-sectional data |

A runs plot is a graphical display of time series data.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-04 Construct and interpret a time series (runs) plot.Topic: Data* |

|  |  |
| --- | --- |
| 69.  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the science of using a sample to make generalizations about the important aspects of a population.  |

|  |  |
| --- | --- |
| A.   | Time series analysis |

|  |  |
| --- | --- |
| B.   | Descriptive statistics |

|  |  |
| --- | --- |
| C.   | Random sample |

|  |  |
| --- | --- |
| **D.**   | Statistical inference |

By definition, a time series is a study of data over time; descriptive statistics is the study of the measurements of population variables; a random sample is a data set.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-08 Distinguish between descriptive statistics and statistical inference.Topic: Populations, Samples, and Traditional Statistics* |
| 70.  | College entrance exam scores, such as SAT scores, are an example of a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_ variable.  |

|  |  |
| --- | --- |
| A.   | ordinal |

|  |  |
| --- | --- |
| B.   | ratio |

|  |  |
| --- | --- |
| C.   | nominative |

|  |  |
| --- | --- |
| **D.**   | interval |

Nominative and ordinal are qualitative variables; exam scores have no meaningful ratio and no inherently defined zero value.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 3 HardLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |

|  |  |
| --- | --- |
| 71.  | The number of miles a truck is driven before it is overhauled is an example of a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_ variable.  |

|  |  |
| --- | --- |
| A.   | nominative |

|  |  |
| --- | --- |
| B.   | ordinal |

|  |  |
| --- | --- |
| C.   | interval |

|  |  |
| --- | --- |
| **D.**   | ratio |

Nominative and ordinal are qualitative variables; miles driven can have a meaningful ratio.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |
| 72.  | A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_ variable is a qualitative variable such that there is no meaningful ordering or ranking of the categories.  |

|  |  |
| --- | --- |
| A.   | ratio |

|  |  |
| --- | --- |
| B.   | ordinal |

|  |  |
| --- | --- |
| **C.**   | nominative |

|  |  |
| --- | --- |
| D.   | interval |

Ratio and interval are quantitative variables; ordinal implies order or rank.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 1 EasyLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |

|  |  |
| --- | --- |
| 73.  | A person's telephone area code is an example of a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_ variable.  |

|  |  |
| --- | --- |
| **A.**   | nominative |

|  |  |
| --- | --- |
| B.   | ordinal |

|  |  |
| --- | --- |
| C.   | interval |

|  |  |
| --- | --- |
| D.   | ratio |

This is a qualitative variable without order; therefore, a nominative variable.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement.Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement* |
| 74.  | Any characteristic of a population unit is a(n)  |

|  |  |
| --- | --- |
| A.   | measurement. |

|  |  |
| --- | --- |
| B.   | sample. |

|  |  |
| --- | --- |
| C.   | observation. |

|  |  |
| --- | --- |
| **D.**   | variable. |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-01 Define a variable.Topic: Data* |

|  |  |
| --- | --- |
| 75.  | Examining all population measurements is called a\_\_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| **A.**   | census |

|  |  |
| --- | --- |
| B.   | frame |

|  |  |
| --- | --- |
| C.   | sample |

|  |  |
| --- | --- |
| D.   | variable |

By definition, a census looks at the entire population.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 2 MediumLearning Objective: 01-07 Describe the difference between a population and a sample.Topic: Populations, Samples, and Traditional Statistics* |
| 76.  | Any characteristic of an element is called a \_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| A.   | set |

|  |  |
| --- | --- |
| B.   | process |

|  |  |
| --- | --- |
| **C.**   | variable |

|  |  |
| --- | --- |
| D.   | D)census |

A process is a sequence of operations; a census looks at the entire population; set is related to population.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-01 Define a variable.Topic: Data* |

|  |  |
| --- | --- |
| 77.  | The process of assigning a value of a variable to each element in a data set is called \_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| A.   | sampling |

|  |  |
| --- | --- |
| **B.**   | measurement |

|  |  |
| --- | --- |
| C.   | experimental analysis |

|  |  |
| --- | --- |
| D.   | observational analysis |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-01 Define a variable.Topic: Data* |
| 78.  | A \_\_\_\_\_\_\_\_\_\_\_ is a display of individual measurements versus time.  |

|  |  |
| --- | --- |
| **A.**   | runs plot |

|  |  |
| --- | --- |
| B.   | statistical analysis |

|  |  |
| --- | --- |
| C.   | random sample |

|  |  |
| --- | --- |
| D.   | measurement |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-04 Construct and interpret a time series (runs) plot.Topic: Data* |

|  |  |
| --- | --- |
| 79.  | Statistical \_\_\_\_\_\_\_\_\_\_\_\_ refers to using a sample of measurements and making generalizations about the important aspects of a population.  |

|  |  |
| --- | --- |
| A.   | sampling |

|  |  |
| --- | --- |
| B.   | process |

|  |  |
| --- | --- |
| C.   | analysis |

|  |  |
| --- | --- |
| **D.**   | inference |

By definition, inference is taking a sample of data and its measurements and relating those measurements to the population as a whole.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-08 Distinguish between descriptive statistics and statistical inference.Topic: Populations, Samples, and Traditional Statistics* |
| 80.  | A \_\_\_\_\_\_\_\_\_\_\_\_ is a subset of the units in a population.  |

|  |  |
| --- | --- |
| A.   | census |

|  |  |
| --- | --- |
| B.   | process |

|  |  |
| --- | --- |
| **C.**   | sample |

|  |  |
| --- | --- |
| D.   | variable |

By definition, a census looks at an entire population; a variable is a characteristic of an element within the population; a process is a sequence of operations that produces elements of a population

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-07 Describe the difference between a population and a sample.Topic: Populations, Samples, and Traditional Statistics* |

|  |  |
| --- | --- |
| 81.  | A \_\_\_\_\_\_\_\_\_\_\_\_ variable can have values that are numbers on the real number line.  |

|  |  |
| --- | --- |
| A.   | qualitative |

|  |  |
| --- | --- |
| **B.**   | quantitative |

|  |  |
| --- | --- |
| C.   | categorical |

|  |  |
| --- | --- |
| D.   | nominative |

Qualitative, categorical, and nominative have similar definitions.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable.Topic: Data* |
| 82.  | A sequence of operations that takes inputs and turns them into outputs is a \_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| **A.**   | process |

|  |  |
| --- | --- |
| B.   | statistical inference |

|  |  |
| --- | --- |
| C.   | runs plot |

|  |  |
| --- | --- |
| D.   | random sampling |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: RememberDifficulty: 1 EasyLearning Objective: 01-09 Explain the concept of random sampling and select a random sample.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |

|  |  |
| --- | --- |
| 83.  | A(n) \_\_\_\_\_\_\_\_\_\_\_\_ variable can have values that indicate into which of several categories of a population it belongs.  |

|  |  |
| --- | --- |
| **A.**   | qualitative |

|  |  |
| --- | --- |
| B.   | quantitative |

|  |  |
| --- | --- |
| C.   | ratio |

|  |  |
| --- | --- |
| D.   | interval |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable.Topic: Data* |
| 84.  | A set of all elements we wish to study is called a \_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| A.   | sample |

|  |  |
| --- | --- |
| B.   | process |

|  |  |
| --- | --- |
| C.   | census |

|  |  |
| --- | --- |
| **D.**   | population |

By definition, a census is the examination of all population measurements; a process is a sequence of operations; a sample is a subset of a population.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-07 Describe the difference between a population and a sample.Topic: Populations, Samples, and Traditional Statistics* |

|  |  |
| --- | --- |
| 85.  | \_\_\_\_\_\_\_\_\_\_\_ refers to describing the important aspects of a set of measurements.  |

|  |  |
| --- | --- |
| A.   | Cross-sectional analysis |

|  |  |
| --- | --- |
| B.   | Runs plot |

|  |  |
| --- | --- |
| **C.**   | Descriptive statistics |

|  |  |
| --- | --- |
| D.   | Time series analysis |

A runs plot and time series analysis both look at data over time; cross-sectional analysis looks at data collected at the same point in time.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-08 Distinguish between descriptive statistics and statistical inference.Topic: Populations, Samples, and Traditional Statistics* |
| 86.  | The change in the daily price of a stock is what type of variable?  |

|  |  |
| --- | --- |
| A.   | qualitative |

|  |  |
| --- | --- |
| B.   | ordinal |

|  |  |
| --- | --- |
| C.   | random |

|  |  |
| --- | --- |
| **D.**   | quantitative |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable.Topic: Data* |

|  |  |
| --- | --- |
| 87.  | Data collected for a particular study are referred to as a data \_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| A.   | variable |

|  |  |
| --- | --- |
| B.   | measurement |

|  |  |
| --- | --- |
| **C.**   | set |

|  |  |
| --- | --- |
| D.   | element |

By definition, a variable is a characteristic of an element; a measurement assigns a value to a variable; an element is one unit of a population.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-01 Define a variable.Topic: Data* |
| 88.  | A data set provides information about some group of individual \_\_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| A.   | variables |

|  |  |
| --- | --- |
| **B.**   | elements |

|  |  |
| --- | --- |
| C.   | statistics |

|  |  |
| --- | --- |
| D.   | measurements |

By definition, measurements assign values to a variable of an element; statistics is the science of describing aspects of a set of measurements; variables are characteristics of elements in a population.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-01 Define a variable.Topic: Data* |

|  |  |
| --- | --- |
| 89.  | When the data being studied are gathered from a published source, this is referred to as a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  |

|  |  |
| --- | --- |
| **A.**   | existing data source |

|  |  |
| --- | --- |
| B.   | observational data source |

|  |  |
| --- | --- |
| C.   | experimental data source |

|  |  |
| --- | --- |
| D.   | cross-sectional data source |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |
| 90.  | One method of determining whether a sample being studied can be used to make statistical inferences about the population is to  |

|  |  |
| --- | --- |
| A.   | run a descriptive statistical analysis. |

|  |  |
| --- | --- |
| B.   | calculate a proportion. |

|  |  |
| --- | --- |
| C.   | create a cross-sectional data analysis. |

|  |  |
| --- | --- |
| **D.**   | produce a runs plot. |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: ApplyDifficulty: 3 HardLearning Objective: 01-08 Distinguish between descriptive statistics and statistical inference.Topic: Populations, Samples, and Traditional Statistics* |

|  |  |
| --- | --- |
| 91.  | Which of the following is *not* an example of unethical statistical practices?  |

|  |  |
| --- | --- |
| A.   | inappropriate interpretation of statistical results |

|  |  |
| --- | --- |
| **B.**   | using graphs to make statistical inferences |

|  |  |
| --- | --- |
| C.   | improper sampling |

|  |  |
| --- | --- |
| D.   | descriptive measures that mislead the user |

|  |  |
| --- | --- |
| E.   | None of the other answers is correct. |

|  |
| --- |
| *AACSB: Analytical ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling.Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling* |
| 92.  | If we collect data on the number of wins each team in the NFL had during the 2011-12 season, we have \_\_\_\_\_\_\_\_\_\_\_\_\_ data.  |

|  |  |
| --- | --- |
| **A.**   | cross-sectional |

|  |  |
| --- | --- |
| B.   | time series |

|  |  |
| --- | --- |
| C.   | non-historical |

|  |  |
| --- | --- |
| D.   | survey |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-03 Describe the difference between cross-sectional data and time series data.Topic: Data* |

|  |  |
| --- | --- |
| 93.  | If we collect data on the number of wins the Dallas Cowboys earned each of the past 10 years, we have \_\_\_\_\_\_\_\_\_\_\_\_\_ data.  |

|  |  |
| --- | --- |
| A.   | cross-sectional |

|  |  |
| --- | --- |
| **B.**   | time series |

|  |  |
| --- | --- |
| C.   | non-historical |

|  |  |
| --- | --- |
| D.   | survey |

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-03 Describe the difference between cross-sectional data and time series data.Topic: Data* |
| 94.  | A study is being conducted on the effect of gas price on the number of miles driven in a given month. Residents in two cities, one on the East Coast and one on the West Coast, are randomly selected and asked to complete a questionnaire on the type of car they drive, the number of miles they live from work, the number of children under 18 in their household, their monthly income, and the number of miles they have driven over the past 30 days. List the response variable(s).   |

The response variable in this study is the number of miles driven over the past 30 days.

Feedback: Response variables are defined as the variable of interest in a study.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: ApplyBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |

|  |  |
| --- | --- |
| 95.  | A study is being conducted on the effect of gas price on the number of miles driven in a given month. Residents in two cities, one on the East Coast and one on the West Coast, are randomly selected and asked to complete a questionnaire on the type of car they drive, the number of miles they live from work, the number of children under 18 in their household, their monthly income, and the number of miles they have driven over the past 30 days. Is this an experimental or observational study?    |

Observational study

Feedback: An observational study occurs when analysts are unable to control the factors of interest. An experimental study occurs when values of factors that are related to the variable of interest can be set or manipulated.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: ApplyBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |
| 96.  | A study is being conducted on the effect of gas price on the number of miles driven in a given month. Residents in two cities, one on the East Coast and one on the West Coast, are randomly selected and asked to complete a questionnaire on the type of car they drive, the number of miles they live from work, the number of children under 18 in their household, their monthly income, and the number of miles they have driven over the past 30 days. List the factor(s).    |

Factors in this study are location of residence, type of car, number of miles from work, number of children under 18, and monthly income.

Feedback: Factors are related to the variable of interest.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: ApplyBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies.Topic: Data Sources, Data Warehousing, and Big Data* |

|  |  |
| --- | --- |
| 97.  | Looking at the runs plot of gasoline prices over the past 30 months, describe what it tells us about the price of gas during these 30 months.  |



The price of gas peaked in the seventh month. The lowest price is observed around 20 to 21 months from the start of the data collection. At the end of the 30 months, gas price is beginning to show stability.

Feedback: Observing the rise and fall of a time series or runs plot.

|  |
| --- |
| *AACSB: Reflective ThinkingBlooms: ApplyBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-04 Construct and interpret a time series (runs) plot.Topic: Data* |
| 98.  | Using the following data table of the average hours per week spent on Internet activities by 15- to 18-year-olds for the years 1999 to 2008, construct the runs plot and interpret. Picture    |



Displaying the average hours spent on Internet activities graphically results in a time series or runs plot. An increase over time in the amount of time can be observed through either the graph or data.

Feedback: Displaying the average hours spent on Internet activities graphically results in a time series or runs plot. An increase over time in the amount of time can be observed through either the graph or data.

|  |
| --- |
| *Blooms: ApplyBlooms: UnderstandDifficulty: 2 MediumLearning Objective: 01-04 Construct and interpret a time series (runs) plot.Topic: Data* |

**Chapter 01 Test Bank - Static Summary**

|  |  |
| --- | --- |
| *Category* | *# of Questions* |
| AACSB: Analytical Thinking | 3 |
| AACSB: Reflective Thinking | 94 |
| Blooms: Apply | 6 |
| Blooms: Remember | 40 |
| Blooms: Understand | 57 |
| Difficulty: 1 Easy | 29 |
| Difficulty: 2 Medium | 65 |
| Difficulty: 3 Hard | 4 |
| Learning Objective: 01-01 Define a variable. | 6 |
| Learning Objective: 01-02 Describe the difference between a quantitative variable and a qualitative variable. | 8 |
| Learning Objective: 01-03 Describe the difference between cross-sectional data and time series data. | 7 |
| Learning Objective: 01-04 Construct and interpret a time series (runs) plot. | 4 |
| Learning Objective: 01-05 Identify the different types of data sources: existing data sources, experimental studies, and observational studies. | 9 |
| Learning Objective: 01-06 Describe the basic ideas of data warehousing and big data. | 3 |
| Learning Objective: 01-07 Describe the difference between a population and a sample. | 6 |
| Learning Objective: 01-08 Distinguish between descriptive statistics and statistical inference. | 8 |
| Learning Objective: 01-09 Explain the concept of random sampling and select a random sample. | 9 |
| Learning Objective: 01-10 Explain the basic concept of statistical (and probability) modeling. | 8 |
| Learning Objective: 01-11 Explain some of the uses of business analytics and data mining. | 5 |
| Learning Objective: 01-12 Identify the ratio, interval, ordinal, and nominative scales of measurement. | 10 |
| Learning Objective: 01-13 Describe the basic ideas of stratified random, cluster, and systematic sampling. | 6 |
| Learning Objective: 01-14 Describe basic types of survey questions, survey procedures, and sources of error. | 9 |
| Topic: Business Analytics and Data Mining | 5 |
| Topic: Data | 25 |
| Topic: Data Sources, Data Warehousing, and Big Data | 12 |
| Topic: More about Surveys and Errors in Survey Sampling | 9 |
| Topic: Populations, Samples, and Traditional Statistics | 13 |
| Topic: Random Sampling, Three Case Studies That Illustrate Statistical Inference, and Statistical Modeling | 19 |
| Topic: Ratio, Interval, Ordinal, and Nominative Scales of Measurement | 10 |
| Topic: Stratified Random, Cluster, and Systematic Sampling | 5 |