Exam

Name_____

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

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

1) _____

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

2) _____

3) True or False: The D in the DCOVA framework stands for "data".
    A) True   B) False

3) _____

4) True or False: The D in the DCOVA framework stands for "define".
    A) True   B) False

4) _____

5) True or False: The C in the DCOVA framework stands for "categorize".
    A) True   B) False

5) _____

6) True or False: The C in the DCOVA framework stands for "collect".
    A) True   B) False

6) _____

7) True or False: The O in the DCOVA framework stands for "operationalize".
    A) True   B) False

7) _____

8) True or False: The O in the DCOVA framework stands for "organize".
    A) True   B) False

8) _____

9) True or False: The V in the DCOVA framework stands for "verify".
    A) True   B) False

9) _____

10) True or False: The V in the DCOVA framework stands for "visualize".
    A) True   B) False

10) _____

11) True or False: The A in the DCOVA framework stands for "apply".
    A) True   B) False

11) _____

12) True or False: The A in the DCOVA framework stands for "analyze".
    A) True   B) False

12) _____

13) The process of using data collected from a small group to reach conclusions about a large group is called
    A) operational definition.   B) DCOVA framework.
    C) statistical inference.   D) descriptive statistics.

13) _____

14) Those methods involving the collection, presentation, and characterization of a set of data in order to properly describe the various features of that set of data are called

14) _____

    A) statistical inference.
    B) DCOVA framework.
    C) descriptive statistics.
    D) operational definition.

15) The collection and summarization of the socioeconomic and physical characteristics of the employees of a particular firm is an example of

15) _____

    A) descriptive statistics.
    B) inferential statistics.
    C) operational definition.
    D) DCOVA framework.

16) The estimation of the population average family expenditure on food based on the sample average expenditure of 1,000 families is an example of

16) _____

    A) descriptive statistics.
    B) DCOVA framework.
    C) operational definition.
    D) inferential statistics.

17) Which of the following is not an element of descriptive statistical problems?

17) _____

    A) An inference made about the population based on the sample.
    B) Tables, graphs, or numerical summary tools.
    C) The population or sample of interest.
    D) Identification of patterns in the data.

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

18) _____

    A) The height of an American pine tree in Yosemite National Forest.
    B) The number of American pine trees in Yosemite National Forest.
    C) The age of an American pine tree in Yosemite National Forest.
    D) The species of trees in Yosemite National Forest.

19) Most analysts focus on the cost of tuition as the way to measure the cost of a college education. But incidentals, such as textbook costs, are rarely considered. A researcher at Drummand University wishes to estimate the textbook costs of first-year students at Drummand. To do so, she monitored the textbook cost of 250 first-year students and found that their average textbook cost was $600 per semester. Identify the variable of interest to the researcher.

19) _____

    A) The age of Drummand University students.
    B) The cost of incidental expenses of Drummand University students.
    C) The year in school of Drummand University students.
    D) The textbook cost of first-year Drummand University students.

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

20) _____

    A) True
    B) False

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

21) _____

    A) True
    B) False

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

22) _____

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

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

23) _____

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

24) _____

25) The oranges grown in corporate farms in an agricultural state were damaged by some unknown fungi a few years ago. Suppose the manager of a large farm wanted to study the impact of the fungi on the orange crops on a daily basis over a 6-week period. On each day a random sample of orange trees was selected from within a random sample of acres. The daily average number of damaged oranges per tree and the proportion of trees having damaged oranges were calculated. In this study, drawing conclusions on any one day about the true population characteristics based on information obtained from the sample is called _____.

25) _____

26) The oranges grown in corporate farms in an agricultural state were damaged by some unknown fungi a few years ago. Suppose the manager of a large farm wanted to study the impact of the fungi on the orange crops on a daily basis over a 6-week period. On each day a random sample of orange trees was selected from within a random sample of acres. The daily average number of damaged oranges per tree and the proportion of trees having damaged oranges were calculated. In this study, the presentation and characterization of the two main measures calculated each day (i.e., average number of damaged oranges per tree and proportion of trees having damaged oranges) is called _____ .

26) _____

27) The Commissioner of Health in New York State wanted to study malpractice litigation in New York. A sample of 31 thousand medical records was drawn from a population of 2.7 million patients who were discharged during 2010. Using the information obtained from the sample to predict population characteristics with respect to malpractice litigation is an example of _____.

27) _____

28) The Commissioner of Health in New York State wanted to study malpractice litigation in New York. A sample of 31 thousand medical records was drawn from a population of 2.7 million patients who were discharged during 2010. The collection, presentation, and characterization of the data from patient medical records are examples of _____.

28) _____

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

29) True or False: Business analytics combine "traditional" statistical methods with methods and techniques from management science and information systems to form an interdisciplinary tool that supports fact-based management decision making.
    A) True   B) False

29) _____

30) Which of the following is not true about business analytics?
    A) It enables you to use management science methods to develop optimization models that impact an organization's strategy, planning, and operations.
    B) It enables you to use complex mathematics to replace the need for organizational decision making and problem solving.
    C) It enables you to use statistical methods to analyze and explore data to uncover unforeseen relationships.
    D) It enables you to use information systems methods to collect and process data sets of all sizes.

30) _____

31) True or False: "Big data" is a concrete concept with a precise operational definition.
    A) True   B) False

31) _____

32) True or False: "Big data" are data being collected in huge volumes and at very fast rates, and they typically arrive in a variety of forms, organized and unorganized.
    A) True   B) False

32) _____

33) True or False: In the current data-driven environment of business, the decisions you make will be increasingly based on gut or intuition supported by personal experience
    A) True   B) False

33) _____

34)
    A)   B)   C)   D)

34) _____

1) A
2) A
3) B
4) A
5) B
6) A
7) B
8) A
9) B
10) A
11) B
12) A
13) C
14) C
15) A
16) D
17) A
18) A
19) D
20) A
21) B
22) A
23)   descriptive statistics/methods
24) inferential statistics/methods
25) inferential statistics/methods
26) descriptive statistics/methods
27) inferential statistics
28) descriptive statistics/methods
29) A
30) B
31) B
32) A
33) B
34) C