Chapter 1: Statistics or Sadistics? It’s Up to You

Test Bank

# Multiple Choice

1. When humans first realized that counting was a good idea, this became a useful skill for people to have \_\_\_\_\_\_.

A. knowing the alphabet

B. asking questions

C. collecting information

D. making decisions

Ans: C

Learning Objective: 1-1: What statistics is all about?

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

2. In early times, once numbers became part of the human language, the next step was to attach numbers to \_\_\_\_\_\_.

A. outcomes

B. letters

C. places

D. time

Ans: A

Learning Objective: 1-1: What statistics is all about?

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

3. After the first set of data having to do with populations was collected during the 17th century, scientists needed to develop \_\_\_\_\_\_.

A. general tools to answer general questions

B. general tools to answer specific questions

C. specific tools to answer general questions

D. specific tools to answer specific questions

Ans: D

Learning Objective: 1-1: What statistics is all about?

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

4. The most popular spreadsheet program that has been used as a tool for conducting basic and some advanced statistical analyses is \_\_\_\_\_\_.

A. SPSS

B. Microsoft Word

C. Mini Tab

D. Excel

Ans: D

Learning Objective: 1-2: Why you should take statistics.

Cognitive Domain: Knowledge

Answer Location: And Why Excel?

Difficulty Level: Easy

5. Today, statisticians in many different professional areas find themselves using \_\_\_\_\_\_ techniques to answer different questions.

A. varied

B. new

C. the same

D. experimental

Ans: C

Learning Objective: 1-2: Why you should take statistics.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

6. Statistics describes a set of \_\_\_\_\_\_ that are used for describing, organizing, and interpreting information.

A. statements

B. rules and exceptions

C. tools and techniques

D. numbers and letters

Ans: C

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: Statistics: What It Is (and Isn’t)

Difficulty Level: Easy

7. \_\_\_\_\_\_ statistics involve collecting, organizing, and summarizing data.

A. Experimental

B. Descriptive

C. Inferential

D. Organizational

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: Statistics: What It Is (and Isn’t)

Difficulty Level: Easy

8. Inferential statistics involve \_\_\_\_\_\_ the data.

A. organizing

B. balancing

C. editing

D. interpreting

Ans: D

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: Statistics: What It Is (and Isn’t)

Difficulty Level: Medium

9. The type of descriptive statistic that tells you the most popular or most frequent choice from a number of choices is the \_\_\_\_\_\_.

A. median

B. mode

C. mean

D. average

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

10. The descriptive statistic that is also referred to as the *average* is the \_\_\_\_\_\_.

A. median

B. mode

C. mean

D. descriptor

Ans: C

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

11. \_\_\_\_\_\_ statistics are often (but not always) the next step after you have some basic understanding of data.

A. Descriptive

B. Inferential

C. Experimental

D. Observational

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

12. \_\_\_\_\_\_ is to a smaller group of data as population is to a larger group of data.

A. Micro group

B. Mini group

C. Micro data

D. Sample

Ans: D

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: What Are Inferential Statistics?

Difficulty Level: Medium

13. Descriptive and inferential statistics work hand in hand, which one you use and when depends on the \_\_\_\_\_\_.

A. question you want answered

B. methods you choose for investigation

C. sample you select

D. population you choose

Ans: A

Learning Objective: 1-3: How to succeed in this course.

Cognitive Domain: Knowledge

Answer Location: In Other Words

Difficulty Level: Easy

14. What is a tool that helps us understand the world around us?

A. analysis

B. data

C. interpretation

D. statistics

Ans: D

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: In Other Words

Difficulty Level: Easy

15. Which of the following individuals used statistical methods during the 17th century to study the intelligence of his family members

A. Charles Darwin

B. Francis Galton

C. Isaac Newton

D. Alfred Binet

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

16. Which of the following would be used to describe the type of statistical methods used to organize and describe the characteristics of a collection of data?

A. inferential statistics

B. descriptive statistics

C. sampling methods

D. population methods

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

17. When did the first collection of a set of data pertaining to populations occur?

A. 15th century

B. 17th century

C. 19th century

D. 21st century

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

18. Who popularized the use of the correlation coefficient?

A. Charles darwin

B. Neil salkind

C. Francis galton

D. R. A. Fisher

Ans: C

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

19. What term is defined as a set of tools and techniques used for describing, organizing, and interpreting data?

A. inference

B. population

C. sample

D. statistics

Ans: D

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: Statistics: What It Is (and Isn’t)

Difficulty Level: Easy

20. If your professor tells you, “If you don’t start with reliable data, you’ll end up with unreliable results,” what does he or she mean?

A. A bird in the hand is worth two in the bush.

B. A watched pot never boils.

C. Don’t cry over spilt milk.

D. Garbage in, garbage out.

Ans: D

Learning Objective: 1-3: How to succeed in this course

Cognitive Domain: Comprehension

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Medium

21. What will you need to complete most statistical analyses?

A. a personal computer

B. large computer mainframe

C. a slide rule

D. a highly trained technician

Ans: A

Learning Objective: 1-3: How to succeed in this course.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

22. In what century was the simplest test for examining differences between two groups first advanced?

A. 17th century

B. 18th century

C. 19th century

D. 20th century

Ans: D

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

23. Inferential statistics is most often used for which of the following?

A. summarizing data

B. organizing data

C. interpreting data

D. collecting data

Ans: C

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

24. When trying to extrapolate the findings from a small group to a large group, which of the following are you doing?

A. organizing data

B. interpreting data

C. summarizing data

D. collecting data

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: What Are Inferential Statistics?

Difficulty Level: Medium

25. What type of statistics is used to organize and describe the characteristics of a collection of data?

A. inferential

B. descriptive

C. ordinal

D. nominal

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

26. What is a collection of information also called?

A. data set

B. sample statistic

C. descriptive statistic

D. population subset

Ans: A

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

27. When are descriptive measures most often used?

A. to describe how often something occurs

B. to determine if a sample is representative of a population

C. to predict an outcome

D. to determine the effect of an intervention

Ans: A

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Medium

28. How are inferential statistics most often used?

A. to infer to the quality of data collected

B. to organize and describe data

C. to make inferences from the sample to the population

D. to plot the data

Ans: C

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: What Are Inferential Statistics?

Difficulty Level: Medium

29. What is the small subset of the population from whom you collect data called?

A. population

B. sample

C. database

D. group A

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

30. What is the larger group from which a sample is drawn?

A. sample group

B. population

C. median

D. mode

Ans: B

Learning Objective: 1-1: What statistics is all about..

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

31. What type of statistics employs the use of sample data that is used to infer information about the population?

A. descriptive statistics

B. ordinal statistics

C. nominal statistics

D. inferential statistics

Ans: D

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

32. When should inferential statistics typically be used?

A. before descriptive statistics

B. after descriptive statistics

C. at the same time as descriptive statistics

D. never with descriptive statistics

Ans: B

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

33. The average age of everyone in the class is an example of what type of statistics?

A. inferential

B. mode

C. median

D. descriptive

Ans: D

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Medium

34. A common goal in statistics is to generalize results from a \_\_\_\_\_\_.

A. sample to a population

B. population to a sample

C. population to a second population

D. sample to a second sample

Ans: A

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: What Are Inferential Statistics?

Difficulty Level: Medium

# True/False

1. Most of the basic statistical procedures were first developed and used in other fields and used to study human behavior much later.

Ans: T

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

2. The past 100 years have seen numerous examples of new ways to use old ideas.

Ans: T

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

3. Generally, although sometimes called different things, the same statistics are used in most disciplines.

Ans: T

Learning Objective: 1-2: Why you should take statistics.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

4. A population can be considered all of the occurrences with certain characteristics.

Ans: T

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

5. All members of a sample are not members of the population.

Ans: F

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: What Are Inferential Statistics?

Difficulty Level: Medium

6. Statistics is used in the following fields: psychology, anthropology, and education.

Ans: T

Learning Objective: 1-2: Why you should take statistics.

Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

7. Statistics is a very specific field in which it can be utilized in a few areas of study.

Ans: F

Learning Objective: 1-2: Why you should take statistics.

Cognitive Domain: Knowledge

Answer Location: Statistics: What It Is (And Isn’t)

Difficulty Level: Easy

8. Additional data analysis procedures are available through Excel if Data Analysis Tools are downloaded as an add-in.

Ans: T

Learning Objective: 1-3: How to succeed in this course.

Cognitive Domain: Comprehension

Answer Location: Tooling Around With the Data Analysis Tools

Difficulty Level: Medium

# Short Answer

1. The introduction of personal computers and their use in statistical analyses have been both good and bad. Give an example of a “good” reason and one example of a “bad” reason.

Ans:

GOOD: Most statistical analyses no longer require access to a huge and expensive mainframe computer; a simple computer, typically costing less than $500, can do most of what’s needed. BAD: Less-than-adequately-educated students will take available data and think that by running those data through a sophisticated analysis they will have reliable, trustworthy, and meaningful outcomes when they do not.

Ans: Examples should reflect knowledge demonstrated in the passage above.

Learning Objective: 1-2: Why you should take statistics.

Cognitive Domain: Application

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Medium

2. The study of statistics can be intimidating, but it can also be rewarding. Describe at least two benefits to your life as a student by engaging in the study of statistics.

Ans: Varies, but some answers may include the following:

* Statistics looks good on your college transcripts.
* It makes you a better student in the behavioral sciences.
* If will help, if you plan to pursue a graduate degree.
* The tools you will use to solve the problems will help you look at interesting problems from a new perspective.
* You can brag that you completed a course that everyone thinks is extremely difficult.

Learning Objective: 1-2: Why you should take statistics.

Cognitive Domain: Application

Answer Location: What Am I Doing in a Statistics Class?

Difficulty Level: Medium

3. Define *descriptive statistics.*

Ans: Descriptive statistics are used to organize and describe the characteristics of a   
collection of data.

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

4. Define *inferential statistics.*

Ans: Inferential statistics are used to make inferences from a smaller group of data (the sample) to the larger group (population).

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

5. What is the difference between descriptive and inferential statistics?

Ans: Descriptive statistics organizes and describes data while inferential statistics is used to infer meaning about a larger population from a sample of the population.

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Analysis

Answer Location: What Are Descriptive Statistics? | What Are Inferential Statistics? Difficulty Level: Medium

6. What is a data set?

Ans: A collection of information or data

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

7. Name two common descriptive statistics.

Ans: mean, median, mode, frequency (any of these may be considered correct)

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

8. What is a sample?

Ans: A sample is a smaller portion (representative portion) of the larger group or population. The sample is the group from whom data is collected in hopes of generalizing results to the population.

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

9. How did Francis Galton use statistics?

Ans: Francis Galton was interested in the nature of human intelligence. To explore one of his primary questions regarding the similarity of intelligence among family members, he used a specific statistical tool called the correlation coefficient, and then he popularized its use in the behavioral and social sciences.

Learning Objective: 1-1: What statistics is all about.

Cognitive Domain: Comprehension

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Medium