

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, which of the following became a useful skill for people to have?

- a. knowing the alphabet
- b. asking questions
- c. collecting information
- d. making decisions

Ans: C

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

2. Once numbers became part of the human language, the next step was to attach _____.

- a. numbers to outcomes
- b. numbers to letters
- c. numbers to places
- d. numbers to time

Ans: A

KEY: Learning Objective: 1.1: What statistics is all about.

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

4. Which of the following is one of the most popular and powerful analytic tools available today?

- a. SPSS
- b. Microsoft Word
- c. Mini Tab
- d. Excel

Ans: A

KEY: Learning Objective: 1.2: Why you should take statistics.

REF: Cognitive Domain: Knowledge

Answer Location: And Why SPSS

Difficulty Level: Easy

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

- a. varied
- b. the same
- c. new
- d. experimental

Ans: B

KEY: Learning Objective: 1.2: Why you should take statistics.

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

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

Difficulty Level: Easy

7. What type of statistics involves collecting, organizing, and summarizing data?

- a. experimental
- b. descriptive
- c. inferential
- d. organizational

Ans: B

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

8. Inferential statistics involve _____ the data.

- a. organizing
- b. balancing
- c. editing
- d. interpreting

Ans: D

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Comprehension

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

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

- a. median
- b. mode
- c. mean
- d. average

Ans: B

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

10. What type of descriptive statistic is also referred to as the *average*?

- a. mean
- b. median
- c. mode
- d. descriptor

Ans: A

KEY: Learning Objective: 1.1: What statistics is all about.

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Comprehension

Answer Location: What Are Inferential Statistics?

Difficulty Level: Medium

13. Descriptive and inferential statistics work cooperatively, and which one you use and when depends on _____.

- a. the question you want answered
- b. the methods you choose for investigation
- c. the sample you select
- d. the population you choose

Ans: A

KEY: Learning Objective: 1.3: How to succeed in this course.

REF: Cognitive Domain: Knowledge

Answer Location: In Other Words . . .

Difficulty Level: Easy

14. The term used to describe the science of organizing and analyzing information to make the information more easily understood is _____.

- a. analysis
- b. data
- c. statistics
- d. interpretation

Ans: C

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

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

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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

16. Which of the following would be used to designate 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

17. In which century 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

19. The term used to define a set of tools and techniques describing, organizing, and interpreting data is _____.

- a. inference
- b. population
- c. sample
- d. statistics

Ans: D

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

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

Difficulty Level: Easy

20. Your professor tells you, "If you don't start with reliable data, you'll end up with unreliable results." You interpret this to mean which of the following?

- 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

KEY: Learning Objective: 1.3: How to succeed in this course.

REF: Cognitive Domain: Comprehension

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

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

KEY: Learning Objective: 1.3: How to succeed in this course.

REF: Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

22. When 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

24. All but which of the following is a use of descriptive statistics?

- a. organizing data
- b. interpreting data
- c. summarizing data
- d. collecting data

Ans: B

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

26. A collection of information is also called _____.

- a. population subset
- b. sample statistic
- c. descriptive statistic
- d. data set

Ans: D

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

27. Descriptive measures are 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

30. The larger group from which a sample is drawn is _____.

- a. sample group
- b. population
- c. median
- d. mode

Ans: B

KEY: Learning Objective: 1.1: What statistics is all about.

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

33. If you calculate the average age of everyone in your class, what type of statistics will you have?

- a. inferential
- b. mode
- c. median
- d. descriptive

Ans: D

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Comprehension

Answer Location: What Are Descriptive Statistics?

Difficulty Level: Easy

34. A common goal in statistics is to _____.

- a. generalize results from a sample to a population
- b. generalize results from a population to a sample
- c. generalize results from a population to a second population
- d. generalize results from a sample to a second sample

Ans: A

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Comprehension

Answer Location: What Are Inferential Statistics?

Difficulty Level: Easy

35. A knowledge of statistics helps us make decisions based on _____ evidence.

- a. logical
- b. unobserved
- c. possible
- d. empirical

Ans: D

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: In Other Words. . .

Difficulty Level: Medium

36. Don't skip lessons—work through the chapters in sequence because _____.

- a. each chapter is important
- b. each chapter is full of information
- c. each chapter provides a foundation for the next chapter
- d. each chapter is useful

Ans: C

KEY: Learning Objective: 1.3: How to succeed in this course.

REF: Cognitive Domain: Comprehension

Answer Location: Ten Ways to Use This Book

Difficulty Level: Easy

37. According to the author, when you have completed the course, you may want to do which of the following?

- a. sell the book
- b. use the book as a reference
- c. continue doing book exercises
- d. do not sell the book

Ans: B

KEY: Learning Objective: 1.3: How to succeed in this course

REF: Cognitive Domain: Comprehension

Answer Location: Ten Ways to Use This Book

Difficulty Level: Easy

38. To ensure some success in doing well in this course you are wise to _____.

- a. form a study group
- b. take notes
- c. talk to your friends
- d. look up in dictionary

Ans: A

KEY: Learning Objective: 1.3: How to succeed in this course

REF: Cognitive Domain: Comprehension

Answer Location: Ten Ways to Use This Book

Difficulty Level: Easy

39. If you do not understand what you are being taught in class, _____.

- a. ask your professors first
- b. ask your friends first
- c. read your book first
- d. think about it first

Ans: A

KEY: Learning Objective: 1.3: How to succeed in this course

REF: Cognitive Domain: Comprehension

Answer Location: Ten Ways to Use This Book

Difficulty Level: Easy

40. The best way to learn statistics is to _____.

- a. ask lots of questions
- b. think a lot
- c. practice a lot
- d. read a lot

Ans: C

KEY: Learning Objective: 1.3: How to succeed in this course

REF: Cognitive Domain: Comprehension

Answer Location: Ten Ways to Use This Book

Difficulty Level: Easy

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

KEY: Learning Objective: 1.1: What statistics is all about

REF: 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

KEY: Learning Objective: 1.1: What statistics is all about

REF: 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

KEY: Learning Objective: 1.2: Why you should take statistics.

REF: Cognitive Domain: Knowledge

Answer Location: A 5-Minute History of Statistics

Difficulty Level: Easy

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

Ans: F

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge

Answer Location: What Are Inferential Statistics?

Difficulty Level: Medium

5. Not all members of a sample are members of the population.

Ans: F

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Comprehension
Answer Location: What Are Inferential Statistics?
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 passage above.

KEY: Learning Objective: 1.2: Why you should take statistics.

REF: 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

KEY: Learning Objective: 1.2: Why you should take statistics.

REF: Cognitive Domain: Application
Answer Location: Why Statistics?
Difficulty Level: Easy

3. Define *descriptive statistics*.

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

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge
Answer Location: What Are Descriptive Statistics?
Difficulty Level: Medium

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).

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Knowledge
Answer Location: What Are Inferential Statistics?
Difficulty Level: Medium

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

Ans: Descriptive statistics organize and describe data, while inferential statistics are used to infer meaning about a larger population from a sample of the population.

KEY: Learning Objective: 1.1: What statistics is all about.

REF: Cognitive Domain: Analysis

Answer Location: What Are Descriptive Statistics? | What Are Inferential Statistics?

Difficulty Level: Medium