# *Statistics 11th edition Witte Test Bank*

SKU: 9781119254515-TEST-BANK

# MULTIPLE-CHOICE TEST ITEMS
## CHAPTER 1
## INTRODUCTION

1.1 Statistics exists because
a) variability.
b) mathematics.
c) complexity.
d) commonalities.
Ans: a

1.2 Which of the following is *not* one of the reasons mentioned for taking an introductory statistics class?
a) better understand research reports in your special area of interest
b) plan statistical analyses for modest research projects
c) intelligently evaluate statistical references in news publications and TV broadcasts
d) single-handedly plan the analysis for any research project
Ans: d

1.3 The more advanced area of statistics is
a) descriptive statistics.
b) inferential statistics.
c) population statistics.
d) analytical statistics.
Ans: b

1.4 The area of statistics that *organizes and summarizes* information about a collection of actual observations is known as
a) descriptive statistics.
b) inferential statistics.
c) population statistics.
d) analytical statistics.
Ans: a

1.5 A single word that best describes *inferential* statistics is
a) analyzing.
b) summarizing.
c) organizing.
d) generalizing.
Ans: d

1.6 Indicate whether *one, both, or neither* of the following statements typifies *descriptive* statistics.
a) It usually takes several months before a person feels "at home" in a new environment.
b) My income last summer was about $10,000.
c) both a and b
d) neither a nor b
Ans: b

1.7 Indicate whether *one, both, or neither* of the following statements typifies *descriptive* statistics.
a) There is a tendency for elderly people to postpone their death until after their birthday.
b) People with similar personalities are mutually attracted.
c) both a and b

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d) neither a nor b
Ans: d
1.8 Indicate whether *one, both, or neither* of the following statements typifies *inferential* statistics.
a) Daily meditation reduces stress.
b)The national deficit for last year exceeded 500 billion.
c) both a and b
d) neither a nor b
Ans: a
1.9 When conducting a survey, it is important that the sample be
a) large.
b) haphazard
c) carefully selected
d) random
Ans: d
1.10 Some form of randomization should occur in both
a) descriptive and inferential statistics
b) populations and samples
c) surveys and experiments
d) independent and dependent variables
Ans: c
1.11 Random assignment helps us to determine whether an observed difference between two groups is
a) larger than expected just by chance.
b) probably is real.
c) merits further attention.
d) all of the above.
Ans: d
1.12 A statistical analysis is based on
a) data.
b) words.
c) labels.
d) numbers.
Ans: a
1.13 *Quantitative* observations consist of
a) words.
b) numerical codes.
c) numbers.
d) all of the above
Ans: c
1.14 Indicate whether *one, both, or neither* of the following statements describes *quantitative* observations.
a) score on this exam
b) vocational goal
c) both a and b
d) neither a nor b
Ans: a

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1.15 Indicate whether *one, both, or neither* of the following statements describes *qualitative* observations.
a) place of birth
b) political preference
c) both a and b
d) neither a nor b
Ans: c
1.16 Indicate whether *one, both, or neither* of the following statements describes *qualitative* observations.
a) IQ score
b) age
c) both a and b
d) neither a nor b
Ans: d
1.17 Indicate whether *one, both, or neither* of the following statements describes *ranked* observations.
a) finish order at a car race.
b) birth order among children in a family
c) both a and b
d) neither a nor b
Ans: c
1.18 In a survey of religious affiliation, numbers are assigned as follows: 1-None, 2-Christian, 3-Jewish, 4-Buddhist, 5-Other. Therefore it is appropriate to conclude that
a) two Christians equal one Buddhist.
b) a Jew is intermediate between a Christian and a Buddhist.
c) five different classes of religious affiliation are being distinguished.
d) religious affiliation can be treated as quantitative data.
Ans: c
1.19 An important *first* step in a statistical analysis requires that observations be identified as either
a) words or numerical codes.
b) quantitative, ranked, or qualitative.
c) true or false.
d) amounts or counts.
Ans: b
1.20 Data are *quantitative* if any single observation within a batch of observations represents a(n)
a) amount or count.
b) word or label.
c) coding device.
d) bit of information.
Ans: a
1.21 You are asked whether 1, 3, 2, 5, 3, 7 constitute quantitative or qualitative data. Your best reply is
a) *quantitative* because these numbers involve an amount or count.
b) *qualitative* because these numbers reflect arbitrary numerical codes or labels.
c) *quantitative or qualitative* depending on the accuracy of these numbers.
d) *quantitative or qualitative* depending on whether these numbers represent an amount or count,

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or merely a numerical code.
Ans: d
1.22 The simplest level of measurement is
a) interval/ratio.
b) ordinal.
c) nominal.
d) approximately interval.
Ans: c
1.23 The most complex level of measurement is
a) interval/ratio
b) ordinal.
c) nominal.
d) approximately interval.
Ans: a
1.24 Shifts to more complex levels of measurement are accompanied by sets of observations that contain
a) more information.
b) less information.
c) more errors.
d) fewer errors.
Ans: a
1.25 If movies are rated on a scale from four stars (outstanding) to no stars (terrible), measurement is
a) interval/ratio
b) ordinal.
c) nominal.
d) approximately interval.
Ans: b
1.26 If people are classified as either literate, semi-literate, or illiterate, measurement is
a) interval/ratio
b) ordinal.
c) nominal.
d) approximately interval.
Ans: b
1.27 If college students are polled about how many academic units they are carrying during the current term, measurement is
a) interval/ratio
b) ordinal.
c) nominal.
d) approximately interval.
Ans: a
1.28 Qualitative data are associated with
a) all levels of measurement.
b) interval/ratio, ordinal, and nominal measurement.
c) ordinal and nominal measurement.
d) nominal measurement.

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Ans: c

1.29 Quantitative data are associated with
a) all levels of measurement.
b) interval/ratio and ordinal measurement.
c) interval/ratio
d) interval/ratio and approximately interval measurement.

Ans: d

1.30 Ranked data are associated with
a) all levels of measurement
b) ordinal measurement
c) approximately interval measurement
d) nominal measurement.

Ans: b

1.31 The distinctive property of ordinal measurement is
a) equal intervals.
b) order.
c) classification.
d) a true zero.

Ans: b

1.32 Which level of measurement is *not* represented in the following statement? A racehorse, wearing number *three*, finishes *second*, with a time of *1.50 minutes*.
a) nominal
b) ordinal
c) approximately interval
d) interval/ratio

Ans: c

1.33 Which level of measurement is represented *t*wice in the following statement? In my group dynamics class, I arrived *last* but spoke *most often* during the lengthy *three-hour* session.
a) nominal
b) ordinal
c) approximately interval
d) interval/ratio

Ans: b

1.34 Six is twice three only when these numbers emerge from a scale of measurement having
a) classification.
b) order.
c) equal intervals.
d) a true zero.

Ans: d

1.35 The attainment of interval/ratio measurement is particularly difficult when you attempt to measure
a) physical characteristics.
b) nonphysical characteristics.
c) complex characteristics.
d) simple characteristics.

Ans: b

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1.36 As measures of academic achievement, grade point averages only approximate interval measurement. Nevertheless, it would be permissible to claim that a GPA of 2.00 represents
a) an amount of academic achievement roughly midway between GPAs of 1.00 and 3.00.
b) twice as much academic achievement as a GPA of 1.00.
c) an amount of academic achievement midway between GPAs of 1.00 and 3.00.
d) none of the above
Ans: a
1.37 Data that approximate interval measurement receive the same statistical treatment as
a) nominal and ordinal data.
b) ordinal and interval data.
c) interval/ratio data.
d) ordinal, interval, and interval/ratio data.
Ans: c
1.38 When data only approximate interval measurement, as often happens in the behavioral and social sciences, you should
a) interpret numerical claims cautiously.
b) shift to more precise measurement.
c) question the worth of the data.
d) develop more incisive research techniques
Ans: a
1.39 A characteristic that can assume more than one value is referred to as
a) fickle.
b) changeable.
c) a constant.
d) a variable.
Ans: d
1.40 Which one of the following quantitative variables is *not* continuous?
a) age
b) speed
c) population
d) height
Ans: c
1.41 When values are rounded off, the resulting numbers are
a) approximate.
b) erroneous.
c) misleading.
d) speculative.
Ans: a
1.42 Gaps among values of continuous variables are
a) more apparent than real.
b) caused by rounding off procedures.
c) reflect our need to deal with finite numbers.
d) all of the above.
Ans: d
1.43 To determine whether a new sleeping pill is effective, adult insomniacs receive a pill (either real or fake, according to some impartial assignment rule) and subsequently their sleeping times are

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measured, in minutes, during eight-hour observation periods. In this study, sleeping time is
a) the independent variable.
b) the dependent variable.
c) either the independent or the dependent variable.
d) neither the independent nor the dependent variable.
Ans: b
1.44 To determine whether a new sleeping pill is effective, adult insomniacs receive a pill (either real or fake, according to some impartial assignment rule) and subsequently their sleeping times are measured, in minutes, during eight-hour observation periods.
This study can *best* be described as
a) an experiment.
b) an observational study.
c) one involving two variables.
d) one involving human subjects.
Ans: a
1.45 An independent variable is defined as a treatment that the investigator
a) measures.
b) manipulates.
c) modifies.
d) makes.
Ans: b
1.46 A distinctive property of an experiment is that the investigator decides on
a) the laboratory setting.
b) the two variables to be studied.
c) the quantification of the dependent variable.
d) who receives the special treatment.
Ans: d
1.47 When compared to observational studies, well-designed experiments provide conclusions that are more clear-cut about
a) human populations.
b) relationships.
c) cause-effect relationships.
d) large batches of data.
Ans: c
1.48 When variables cannot be manipulated by the investigator, relationships must be studied with
a) observational studies
b) patience
c) very small numbers of subjects
d) an abstract perspective
Ans: a
1.49 A confounding variable
a) increases the generality of a study
b) compromises the interpretation of a study
c) replaces the independent variable
d) facilitates the interpretation of a study
Ans: b

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1.50 An experiment permits a decision about whether an observed difference is
a) true or false.
b) large or small.
c) real or transitory.
d) important or unimportant.
e) Ans: c

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