Test Bank for Statistics Plain and Simple 4th Edition by Jackson

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Test Bank

Chapter 1: Getting Started
Module 2: Variables and Measurement

Test Items

Multiple Choice Questions

1. Which of the following represents the best operational definition of hunger?
   a. That empty, gnawing feeling you get in your stomach
   b. Not having eaten for 18 hours
   c. The number of stomach growls reported in a ten-minute time interval
   d. All of the above

Answer: b
OPERATIONALLY DEFINING VARIABLES—APPLY

2. A definition of a variable in terms of the activities a researcher uses to measure or manipulate it is a(n):
   a. operational definition.
   b. functional definition.
   c. well-defined variable.
   d. measure definition.

Answer: a
OPERATIONALLY DEFINING VARIABLES—UNDERSTAND

3. A property of measurement in which objects that are different receive different scores is:
   a. identity.
   b. magnitude.
   c. equal unit size.
   d. absolute zero.

Answer: a
PROPERTIES OF MEASUREMENT—UNDERSTAND

4. A property of measurement in which the ordering of numbers reflects the ordering of the variable is:
   a. identity.
   b. magnitude.
   c. equal unit size.
   d. absolute zero.

Answer: b
PROPERTIES OF MEASUREMENT—UNDERSTAND

5. A property of measurement in which objects that are different receive different scores represents the _____ property, and a property of measurement in which the ordering of numbers reflects the ordering of the variable represents the _____ property.
   a. identity; equal unit size
   b. equal unit size; identity
   c. identity; magnitude

d. magnitude; absolute zero

Answer: c
PROPERTIES OF MEASUREMENT—UNDERSTAND

6. A property of measurement in which the ordering of numbers reflects the ordering of the variable represents the _____ property, and a property of measurement in which a difference of 1 is the same amount throughout the scale represents the _____ property.
   a. identity; equal unit size
   b. magnitude; equal unit size
   c. magnitude; absolute zero
   d. equal unit size; absolute zero

Answer: b
PROPERTIES OF MEASUREMENT—UNDERSTAND

7. A property of measurement in which a difference of 1 is the same amount throughout the entire scale is:
   a. identity.
   b. magnitude.
   c. equal unit size.
   d. absolute zero.

Answer: c
PROPERTIES OF MEASUREMENT—UNDERSTAND

8. A property of measurement in which assigning a score of zero indicates an absence of the variable being measured is:
   a. identity.
   b. magnitude.
   c. equal unit size.
   d. absolute zero.

Answer: d
PROPERTIES OF MEASUREMENT—UNDERSTAND

9. A property of measurement in which a difference of 1 is the same amount throughout the entire scale represents the _____ property, and a property of measurement in which assigning a score of zero indicates an absence of the variable being measured represents the _____ property.
   a. identity; equal unit size
   b. magnitude; equal unit size
   c. magnitude; absolute zero
   d. equal unit size; absolute zero

Answer: d
PROPERTIES OF MEASUREMENT—UNDERSTAND

10. Political affiliation is an example of the _____ property of measurement, and measuring length in inches is an example of the _____ property of measurement.
    a. magnitude; identity
    b. equal unit size; magnitude
    c. absolute zero; equal unit size
    d. identity; equal unit size

Answer: d
PROPERTIES OF MEASUREMENT—APPLY

11. Arranging a group of individuals in terms of how tall they appear, from tallest to shortest, represents the _____ property of measurement.
    a. identity
    b. magnitude
    c. equal unit size
    d. absolute zero

Answer: b
PROPERTIES OF MEASUREMENT—APPLY

12. The number on a football jersey is an example of the _____ scale of measurement, and temperature measured on the Fahrenheit scale is an example of the _____ scale of measurement.
    a. ordinal; interval
    b. interval; nominal
    c. nominal; ratio
    d. nominal; interval

Answer: d
SCALES (LEVELS) OF MEASUREMENT—APPLY

13. Class rank is an example of the _____ scale of measurement, and weight is an example of the _____ scale of measurement.
    a. ordinal; ratio
    b. ordinal; nominal
    c. nominal; interval
    d. interval; ratio

Answer: a
PROPERTIES OF MEASUREMENT—APPLY

14. Which of the following represents data arranged on an interval-ratio scale?
    a. Ranking of contestants in a beauty contest
    b. Reaction time in seconds to complete a task
    c. Categorizing subjects according to their gender
    d. Letter grade on an exam

Answer: b
PROPERTIES OF MEASUREMENT—APPLY

15. Time represents the _____ scale of measurement, and ethnicity represents the _____ scale of measurement.
    a. ratio; ordinal
    b. ratio; nominal
    c. interval; nominal
    d. ordinal; ratio

Answer: b
PROPERTIES OF MEASUREMENT—APPLY

16. A scale of measurement in which objects or individuals are assigned to categories that have no numerical properties is a(n) _____ scale.

a. nominal
b. ordinal
c. interval
d. ratio

Answer: a
PROPERTIES OF MEASUREMENT—UNDERSTAND

17. A scale of measurement in which objects or individuals are categorized and the categories form a rank order along a continuum is a(n) _____ scale.
    a. nominal
    b. ordinal
    c. interval
    d. ratio

Answer: b
PROPERTIES OF MEASUREMENT—UNDERSTAND

18. A scale of measurement in which the units of measurement between the numbers on the scale are all equal in size is a(n) _____ scale.
    a. nominal
    b. ordinal
    c. interval
    d. ratio

Answer: c
PROPERTIES OF MEASUREMENT—UNDERSTAND

19. A scale of measurement in which, in addition to order and equal units of measurement, there is an absolute zero that indicates an absence of the variable being measured is a(n) _____ scale.
    a. nominal
    b. ordinal
    c. interval
    d. ratio

Answer: d
PROPERTIES OF MEASUREMENT—UNDERSTAND

20. Discrete variables represent variables measured in _____, and continuous variables represent variables measured in _____.
    a. whole units; whole units and/or fractional amounts
    b. whole units and/or fractional amounts; whole units
    c. nominal and ordinal scales; interval and ratio scales
    d. whole units and usually nominal and ordinal scales; whole units and/or fractional amounts and usually interval and ratio scales

Answer: d
DISCRETE AND CONTINUOUS VARIABLES—UNDERSTAND

Short Answer/Essay Questions

1. What is an operational definition? Give an operational definition of intelligence.

An operational definition is a definition of a variable in terms of the operations (activities) a researcher uses to measure or manipulate it. Thus, an operational definition of intelligence could be based on one's score on an intelligence test or on one's ability to solve a problem that the researcher has determined requires intellectual ability.

OPERATIONALLY DEFINING VARIABLES—UNDERSTAND & APPLY

2. Identify the four scales of measurement noting the properties of measurement each scale has.

   The nominal scale has the property of identity; the ordinal scale has the properties of identity and magnitude; the interval scale has the properties of identity, magnitude, and equal unit size; and the ratio scale has the properties of identity, magnitude, equal unit size, and a true zero.

SCALES (LEVELS) OF MEASUREMENT—UNDERSTAND

3. Provide an example of a variable measured on a nominal scale, an ordinal scale, an interval scale, and a ratio scale.

   Nominal: gender; ethnicity
   Ordinal: letter grade; class rank
   Interval: Fahrenheit temperature; SAT score
   Ratio: percentage grade on an exam; weight

SCALES (LEVELS) OF MEASUREMENT—APPLY