

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.
- identity
 - magnitude
 - equal unit size
 - 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.
- ordinal; interval
 - interval; nominal
 - nominal; ratio
 - 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.
- ordinal; ratio
 - ordinal; nominal
 - nominal; interval
 - interval; ratio

Answer: a

PROPERTIES OF MEASUREMENT—APPLY

14. Which of the following represents data arranged on an interval-ratio scale?
- Ranking of contestants in a beauty contest
 - Reaction time in seconds to complete a task
 - Categorizing subjects according to their gender
 - 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.
- ratio; ordinal
 - ratio; nominal
 - interval; nominal
 - 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