R Exams
Statistics Exam 2019-03-14   Exam ID 00003

Name:

Student ID:

Signature:

1. (a) ☐   (b) **X**

2. (a) ☐   (b) **X**

3. (a) **X**   (b) ☐   (c) **X**   (d) ☐

4. (a) ☐   (b) **X**

5. (a) ☐   (b) **X**

6. (a) **X**   (b) ☐

7. (a) **X**   (b) ☐

8. (a) ☐   (b) ☐   (c) **X**

9. (a) ☐   (b) **X**

10. (a) ☐   (b) **X**

11. (a) ☐   (b) **X**

12. (a) ☐   (b) ☐   (c) ☐   (d) **X**   (e) ☐

13. (a) ☐ (b) ☐ (c) **X** (d) ☐ (e) ☐

14. (a) ☐ (b) **X** (c) ☐ (d) ☐ (e) ☐

15. (a) **X** (b) ☐ (c) ☐ (d) ☐ (e) ☐

16. (a) ☐ (b) ☐ (c) ☐ (d) **X** (e) ☐

17. (a) **X** (b) ☐ (c) ☐ (d) ☐ (e) ☐

18. (a) ☐ (b) **X**

19. (a) ☐ (b) **X**

20. (a) **X** (b) **X** (c) **X** (d) **X** (e) ☐ (f) ☐ (g) ☐ (h) **X**
    (i) **X**

1. **Problem**
   Part of understanding statistics is understanding what results mean in real life.

   (a) False
   (b) True

   Solution

   (a) False.
   (b) True.

2. **Problem**
   The purpose of statistics is to make things more complicated.

   (a) True
   (b) False

   Solution

   (a) False.
   (b) True.

3. **Problem**
   What is a data frame in R?

   (a) It is a convenient way to group study data used for an analysis.
   (b) It is used for displaying graphical data.
   (c) It is a structure for storing data sets.
   (d) There is not such thing in R.

   Solution

   (a) True.
   (b) False.
   (c) True.
   (d) False.

4. **Problem**
   x=2 and x<-2 mean the same thing in R.

   (a) False
   (b) True

   Solution

   (a) False.
   (b) True.

5. **Problem**
   Rstudio needs R to run.

   (a) False

(b) True

Solution

(a) False.

(b) True.

6. **Problem**
A variable we think is a CAUSE is called an INDEPENDENT variable or IV for short.

(a) True

(b) False

Solution

(a) True.

(b) False.

7. **Problem**
Another name for a dependent variable (DV) is an outcome variable.

(a) True

(b) False

Solution

(a) True.

(b) False.

8. **Problem**
In a study examining how quickly and accuratly nurses chart on an EMR page when different layouts are used, nurses are divided into three groups. One group charts on the regular EMR page. One group charts on modified layout #1. And one group charts on modified layout #2. After all nurses have completed their charting, the time to complete charting and the number of mistakes are measured. What type of variable is number of mistakes?

(a) independent variable

(b) not enough information

(c) dependent variable

Solution

(a) False.

(b) False.

(c) True.

9. **Problem**
Randomization is one way we try to reduce unsystematic variation.

(a) False

(b) True

Solution

(a) False.

(b) True.

10. **Problem**
Longitudinal research measures at multiple points in time.

(a) False

(b) True

Solution

(a) False.

(b) True.

11. **Problem**
Validity means we measure what we intend to measure.

(a) False

(b) True

Solution

(a) False.

(b) True.

12. **Problem**
What is the level of measurement for a variable called age?

(a) interval

(b) nominal

(c) ordinal

(d) not enough information

(e) ratio

Solution

(a) False.

(b) False.

(c) False.

(d) True.

(e) False.

13. **Problem**
What level of measurement is a variable called parts per million where measurements look like 10, 15, 18, 20, etc.?

(a) interval

(b) nominal

(c) ratio

(d) not enough information

(e) ordinal

Solution

(a) False.

(b) False.

(c) True.

(d) False.

(e) False.

14. **Problem**
What level of measurement is a variable called race results where measurements look like first, second, third, etc.?

(a) interval

(b) ordinal

(c) not enough information

(d) ratio

(e) nominal

Solution

(a) False.

(b) True.

(c) False.

(d) False.

(e) False.

15. **Problem**
What level of measurement is a variable called temperature in Celsius where measurements look like 36, 36.5, 37, 38. etc.?

(a) interval

(b) ratio

(c) not enough information

(d) ordinal

(e) nominal

Solution

(a) True.

(b) False.

(c) False.

(d) False.

(e) False.

16. **Problem**
What level of measurement is a variable called year in school where measurements look like freshman, sophomore, junior, senior?

   (a) not enough information

   (b) interval

   (c) ratio

   (d) ordinal

   (e) nominal

   Solution

   (a) False.

   (b) False.

   (c) False.

   (d) True.

   (e) False.

17. **Problem**
What level of measurement is a variable called weight in pounds where measurements look like 125, 135, 150, 195, 210, etc.?

   (a) ratio

   (b) ordinal

   (c) not enough information

   (d) nominal

   (e) interval

   Solution

   (a) True.

   (b) False.

   (c) False.

   (d) False.

   (e) False.

18. **Problem**
Categorical variables are made up of categories.

   (a) False

   (b) True

   Solution

   (a) False.

   (b) True.

19. **Problem**
Interval variables have a numerically meaningful zero point.

(a) True

(b) False

Solution

(a) False.

(b) True.

20. **Problem**
    What is true of interval level data?

    (a) Multiplication and division are not really appropriate.

    (b) The appropriate descriptive statistics are mean and standard deviation.

    (c) Usually psychometric measurements.

    (d) Addition and subtraction may be performed.

    (e) It is the next to lowest level of measurement.

    (f) The distance between measurement points is unknown and inconsistent.

    (g) It is a categorical variable.

    (h) Zero is arbitrary.

    (i) The mean, median, and mode are meaningful measures of central tendency.

    Solution

    (a) True.

    (b) True.

    (c) True.

    (d) True.

    (e) False.

    (f) False.

    (g) False.

    (h) True.

    (i) True.