R University

Statistics Exam 2015-01-01 **Exam ID 00003**

Name: _____

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Signature: _____

1. (a) [X] (b) [ ] (c) [ ] (d) [ ]
2. **nominal**
3. (a) [X] (b) [ ] (c) [ ] (d) [ ] (e) [ ] (f) [ ] (g) [ ] (h) [ ]
4. **ordinal**
5. (a) [ ] (b) [X] (c) [X] (d) [ ] (e) [ ] (f) [ ] (g) [ ] (h) [ ]
6. **nominal**
7. (a) [ ] (b) [X] (c) [X] (d) [ ] (e) [ ] (f) [ ] (g) [ ] (h) [ ]
8. **ratio**
9. (a) [ ] (b) [ ] (c) [ ] (d) [ ] (e) [ ] (f) [X] (g) [ ] (h) [X]

1. **Problem**
   What is the level of measurement for a variable called eye_color with observations like blue, green, brown, ... ?

   (a) nominal
   (b) ordinal
   (c) interval
   (d) ratio

   Solution

   (a) True. nominal
   (b) False. ordinal
   (c) False. interval
   (d) False. ratio

2. **Problem**
   What is the level of measurement for variable = religion with responses = (Catholic, Protestant, Jewish, Buddhist, other)?

   Solution
   The level of measurement for variable = religion with responses = (Catholic, Protestant, Jewish, Buddhist, other) is nominal.

3. **Problem**
   Which of the following statements about nominal level of measurement is correct?

   (a) If the categories are numbered, the numbers have no meaning.
   (b) It is continuous.
   (c) There is order to the catgories.
   (d) Meaningful ratios can be created with this level of measurement.
   (e) This level of measurement is often used for numerical measurements of tangible phenomena (e.g. time, height, weight, etc.)
   (f) This level of measurement is often used for summary scores of psychometric constructs.
   (g) This level of measurement divides observations into groups with order.
   (h) This level of measurement is often used for individual questions on psychometric instruments (e.g. Likert-type scales).

   Solution

   (a) True. If the categories are numbered, the numbers have no meaning.
   (b) False. It is continuous.
   (c) False. There is order to the catgories.
   (d) False. Meaningful ratios can be created with this level of measurement.
   (e) False. This level of measurement is often used for numerical measurements of tangible phenomena (e.g. time, height, weight, etc.)
   (f) False. This level of measurement is often used for summary scores of psychometric constructs.

(g) False. This level of measurement divides observations into groups with order.

(h) False. This level of measurement is often used for individual questions on psychometric instruments (e.g. Likert-type scales).

4. **Problem**
What is the level of measurement for variable = birth order with responses = (first, second, third, fourth, greater than fourth)?

Solution
The level of measurement for variable = birth order with responses = (first, second, third, fourth, greater than fourth) is ordinal.

5. **Problem**
Which of the following statements about interval level of measurement is correct?

(a) There is order to the catgories.

(b) It is the next to highest level of measurement.

(c) It is continuous.

(d) This level of measurement is often used for numerical measurements of tangible phenomena (e.g. time, height, weight, etc.)

(e) It is categorical.

(f) This level of measurement is often used for individual questions on psychometric instruments (e.g. Likert-type scales).

(g) Meaningful ratios can be created with this level of measurement.

(h) It is the highest level of measuremet.

Solution

(a) False. There is order to the catgories.

(b) True. It is the next to highest level of measurement.

(c) True. It is continuous.

(d) False. This level of measurement is often used for numerical measurements of tangible phenomena (e.g. time, height, weight, etc.)

(e) False. It is categorical.

(f) False. This level of measurement is often used for individual questions on psychometric instruments (e.g. Likert-type scales).

(g) False. Meaningful ratios can be created with this level of measurement.

(h) False. It is the highest level of measuremet.

6. **Problem**
What is the level of measurement for variable = sex with responses = (male, female, other)?

Solution
The level of measurement for variable = sex with responses = (male, female, other) is nominal.

7. **Problem**
Which of the following statements about ratio level of measurement is correct?

(a) The distance between the units of measurement is unknown.

(b) This level of measurement is often used for numerical measurements of tangible phenomena (e.g. time, height, weight, etc.)

(c) It is the highest level of measuremet.

(d) If the categories are numbered, the numbers have no meaning.

(e) This level of measurement is often used for summary scores of psychometric constructs.

(f) It is the next to highest level of measurement.

(g) It is the lowest level of measurement.

(h) It is categorical.

Solution

(a) False. The distance between the units of measurement is unknown.

(b) True. This level of measurement is often used for numerical measurements of tangible phenomena (e.g. time, height, weight, etc.)

(c) True. It is the highest level of measuremet.

(d) False. If the categories are numbered, the numbers have no meaning.

(e) False. This level of measurement is often used for summary scores of psychometric constructs.

(f) False. It is the next to highest level of measurement.

(g) False. It is the lowest level of measurement.

(h) False. It is categorical.

8. **Problem**
What is the level of measurement for variable = time in seconds with responses = numerical responses (e.g. 60, 72, 65, etc.)?

   Solution
The level of measurement for variable = time in seconds with responses = numerical responses (e.g. 60, 72, 65, etc.) is ratio.

9. **Problem**
Which of the following statements about ordinal level of measurement is correct?

   (a) It is the next to highest level of measurement.

   (b) Meaningful ratios can be created with this level of measurement.

   (c) This level of measurement is often used for summary scores of psychometric constructs.

   (d) If the categories are numbered, the numbers have no meaning.

   (e) There is a known distance between units of measurement.

   (f) This level of measurement is often used for individual questions on psychometric instruments (e.g. Likert-type scales).

   (g) This level of measurement is often used for summary scores on psychometric instruments.

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

   Solution

   (a) False. It is the next to highest level of measurement.

   (b) False. Meaningful ratios can be created with this level of measurement.

(c) False. This level of measurement is often used for summary scores of psychometric constructs.

(d) False. If the categories are numbered, the numbers have no meaning.

(e) False. There is a known distance between units of measurement.

(f) True. This level of measurement is often used for individual questions on psychometric instruments (e.g. Likert-type scales).

(g) False. This level of measurement is often used for summary scores on psychometric instruments.

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