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| 1. Data analysis hinges on which of the following considerations about the variable(s) to be analyzed?   |  |  |  | | --- | --- | --- | |  | a. | Will the variable be analyzed in isolation or in relationship to one or more other variables? | |  | b. | What type of analysis is required by the project sponsor? | |  | c. | What level of measurement was used to measure the variable(s)? | |  | d. | What level of measurement was used to measure the variable(s)? | |  | e. | All of these are considerations about the variable(s) to be analyzed. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | The considerations, “Will the variable be analyzed in isolation or in relationship to one or more other variables?” and “What level of measurement was used to measure the variable(s)?” are crucial for data analysis. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *ACCREDITING STANDARDS:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 3:20 AM | | *DATE MODIFIED:* | 7/31/2017 3:22 AM | |

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| 2. Univariate analysis refers to analyzing   |  |  |  | | --- | --- | --- | |  | a. | the relationship between variables. | |  | b. | a variable in isolation. | |  | c. | the unit variation for a variable. | |  | d. | All of these are correct. | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | Univariate analysis refers to analyzing a variable in isolation. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 3:23 AM | | *DATE MODIFIED:* | 9/21/2017 11:12 AM | |

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| 3. Which of the following would NOT be an example of a situation involving univariate analysis?   |  |  |  | | --- | --- | --- | |  | a. | A publisher of a magazine is interested in determining what proportion of the magazine's readers is male. | |  | b. | A restaurant would like to know the average income of its typical diner. | |  | c. | A car dealership is particularly interested in whether or not people who own vans are more or less likely to finance auto purchases compared with people who don't own vans. | |  | d. | A service provider needs to know her customer's average level of satisfaction with the services provided. | |  | e. | All of these are examples for which univariate analysis could be performed. |  |  |  | | --- | --- | | *ANSWER:* | c | | *RATIONALE:* | All of these are examples of situations involving univariate analysis except for the situation where a car dealership is particularly interested in whether or not people who own vans are more or less likely to finance auto purchases compared with people who don't own vans. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 3:36 AM | | *DATE MODIFIED:* | 7/31/2017 3:40 AM | |

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| 4. Which types of measurement are used to group respondents or objects into groups or categories and are thus referred to as categorical measures?   |  |  |  | | --- | --- | --- | |  | a. | Nominal and interval | |  | b. | Ordinal and ratio | |  | c. | Ratio and interval | |  | d. | Nominal and ordinal | |  | e. | Ordinal and interval |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | This describes nominal and ordinal measurements. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 4:50 AM | | *DATE MODIFIED:* | 7/31/2017 4:53 AM | |

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| 5. A frequency analysis is NOT used to   |  |  |  | | --- | --- | --- | |  | a. | locate blunders. | |  | b. | locate outliers. | |  | c. | determine the empirical distribution of the variable. | |  | d. | communicate the results of the study. | |  | e. | determine the relationship between two variables. |  |  |  | | --- | --- | | *ANSWER:* | e | | *RATIONALE:* | All of these are uses of frequency analysis except to determine the relationship between two variables. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 4:58 AM | | *DATE MODIFIED:* | 7/31/2017 5:02 AM | |

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| 6. A frequency analysis is useful for   |  |  |  | | --- | --- | --- | |  | a. | locating blunders. | |  | b. | determining the empirical distribution of the variable in question. | |  | c. | determining the relationship between two variables. | |  | d. | locating blunders and determining the empirical distribution of the variable in question. | |  | e. | All of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | A frequency analysis is useful for locating blunders and determining the empirical distribution of the variable in question. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 5:14 AM | | *DATE MODIFIED:* | 9/21/2017 11:13 AM | |

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| 7. A frequency analysis reveals that the percentage of men owning Dalmatians is 9.93472. Which of the following is the best way to display this finding?   |  |  |  | | --- | --- | --- | |  | a. | 9.93472% | |  | b. | 9.93% | |  | c. | 10% | |  | d. | 9% | |  | e. | 9.9% |  |  |  | | --- | --- | | *ANSWER:* | c | | *RATIONALE:* | The best way to display this value would be 10%. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 5:18 AM | | *DATE MODIFIED:* | 7/31/2017 5:19 AM | |

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| 8. An observation that is very different in magnitude from the rest of the observations for a particular variable is a(n)   |  |  |  | | --- | --- | --- | |  | a. | error. | |  | b. | blunder. | |  | c. | histogram. | |  | d. | outlier. | |  | e. | deviant. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | An observation that is very different in magnitude from the rest of the observations for a particular variable is an outlier. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 5:31 AM | | *DATE MODIFIED:* | 7/31/2017 5:32 AM | |

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| 9. A bar chart where the values of a variable are placed along the X-axis and the absolute or relative frequency along the Y-axis is called a \_\_\_\_ and can be developed from the \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | bar graph, cumulative data | |  | b. | frequency polygon, one-way frequency tabulation | |  | c. | cumulative distribution graph, cumulative data | |  | d. | histogram, uncoded data | |  | e. | histogram, one-way frequency tabulation |  |  |  | | --- | --- | | *ANSWER:* | e | | *RATIONALE:* | A bar chart where the values of a variable are placed along the X-axis and the absolute or relative frequency along the Y-axis is called a histogram and can be developed from the one-way frequency tabulation. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 5:35 AM | | *DATE MODIFIED:* | 7/31/2017 5:37 AM | |

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| 10. Histograms are used to   |  |  |  | | --- | --- | --- | |  | a. | investigate the relation between two variables. | |  | b. | construct cumulative distribution functions. | |  | c. | construct cross tabulation tables. | |  | d. | determine the distribution of nonresponse errors. | |  | e. | determine the empirical distribution of a variable. |  |  |  | | --- | --- | | *ANSWER:* | e | | *RATIONALE:* | Histograms are used to determine the empirical distribution of a variable. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 5:43 AM | | *DATE MODIFIED:* | 7/31/2017 5:44 AM | |

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| 11. Categorical measures are most commonly used to   |  |  |  | | --- | --- | --- | |  | a. | calculate confidence intervals. | |  | b. | group respondents or objects into groups. | |  | c. | determine the standard deviation. | |  | d. | develop histograms. | |  | e. | All of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | Categorical measures are most commonly used to group respondents or objects into groups. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 5:46 AM | | *DATE MODIFIED:* | 7/31/2017 5:47 AM | |

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| 12. It is possible to produce frequencies for   |  |  |  | | --- | --- | --- | |  | a. | nominal measures only. | |  | b. | ordinal measures only. | |  | c. | categorical measures only. | |  | d. | any variables in a study. | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | It is possible to produce frequencies for any variables in a study. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 5:51 AM | | *DATE MODIFIED:* | 9/21/2017 11:14 AM | |

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| 13. For which of the following is frequency analysis NOT useful?   |  |  |  | | --- | --- | --- | |  | a. | Understanding the relationship between two variables | |  | b. | Communicating the results of a study | |  | c. | Determining the degree of item nonresponse | |  | d. | Locating blunders | |  | e. | Locating outliers |  |  |  | | --- | --- | | *ANSWER:* | a | | *RATIONALE:* | All of these are uses for frequency analysis except understanding the relationship between two variables. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 5:56 AM | | *DATE MODIFIED:* | 7/31/2017 5:57 AM | |

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| 14. When performing frequency analysis   |  |  |  | | --- | --- | --- | |  | a. | you'll almost always want to include percentages along with the raw count. | |  | b. | including percentages will help readers interpret results. | |  | c. | the number of missing cases should be indicated. | |  | d. | All of these are correct. | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | All of these describe frequency analysis. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 5:58 AM | | *DATE MODIFIED:* | 9/21/2017 11:14 AM | |

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| 15. Some of the commonly used measures of location such as the median or quartiles can be read directly from a   |  |  |  | | --- | --- | --- | |  | a. | matrix. | |  | b. | frequency polygon. | |  | c. | histogram. | |  | d. | cumulative distribution function. | |  | e. | contingency table. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | This describes the cumulative distribution function. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 6:02 AM | | *DATE MODIFIED:* | 7/31/2017 6:04 AM | |

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| 16. A researcher is interested in analyzing a set of nominal data to determine if the observed pattern of frequencies corresponds to the expected pattern. The appropriate statistical technique is   |  |  |  | | --- | --- | --- | |  | a. | chi-square goodness-of-fit. | |  | b. | regression analysis. | |  | c. | z-test for comparing sample proportion against a standard. | |  | d. | z-test for comparing sample mean against a standard. | |  | e. | frequency analysis. |  |  |  | | --- | --- | | *ANSWER:* | a | | *RATIONALE:* | This describes chi-square goodness-of-fit. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 6:16 AM | | *DATE MODIFIED:* | 7/31/2017 6:17 AM | |

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| 17. A major car manufacturer was interested in whether its midsize car was selling consistently in two markets with respect to the annual income of the car purchasers. Five-hundred new car buyers in Chicago and Miami were surveyed. In Chicago, the following pattern was observed: < $20,000 5%; $20,000-$29,999 0%; $30,000-$39,999 40%; $40,000-$49,999 30%; ≥ $50,000 5%. Among those surveyed in Miami, 20 earned under $20,000; 70 earned between $20,000 and $30,000; 265 earned between $30,000 and $40,000; 125 earned between $40,000 and $50,000; and 20 earned more than $50,000. The chi-square test was used to check whether Miami sales among income groups were consistent with Chicago's. The appropriate degrees of freedom for the chi-square test would be   |  |  |  | | --- | --- | --- | |  | a. | 4 | |  | b. | 5 | |  | c. | 500 | |  | d. | 499 | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | a | | *RATIONALE:* | The appropriate degrees of freedom for the chi-square test would be 4. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 6:20 AM | | *DATE MODIFIED:* | 7/31/2017 6:21 AM | |

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| 18. A major car manufacturer was interested in whether its midsize car was selling consistently in two markets with respect to the annual income of the car purchasers. Five-hundred new car buyers in Chicago and Miami were surveyed. In Chicago, the following pattern was observed: < $20,000 5%; $20,000-$29,999 0%; $30,000-$39,999 40%; $40,000-$49,999 30%; ≥ $50,000 5%. Among those surveyed in Miami, 20 earned under $20,000; 70 earned between $20,000 and $30,000; 265 earned between $30,000 and $40,000; 125 earned between $40,000 and $50,000; and 20 earned more than $50,000. Using the data provided, the calculated value of |2 =   |  |  |  | | --- | --- | --- | |  | a. | 0.883 | |  | b. | 36.30 | |  | c. | 11.95 | |  | d. | −0.542 | |  | e. | Not enough information is provided to calculate the value. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | The calculated value of |2 would be 36.30. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 6:29 AM | | *DATE MODIFIED:* | 7/31/2017 6:30 AM | |

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| 19. Which statement(s) pertaining to the chi-square distribution is FALSE?   |  |  |  | | --- | --- | --- | |  | a. | The chi-square distribution is completely determined by its degrees of freedom. | |  | b. | The variable of interest is broken into k mutually exclusive categories. | |  | c. | The expected number falling into a category is generated from the null hypothesis. | |  | d. | The chi-square degrees of freedom are given by k - 2. | |  | e. | The chi-square is appropriate for independent trials. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | All of the statements are true except that the chi-square degrees of freedom are given by k – 2. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 6:34 AM | | *DATE MODIFIED:* | 7/31/2017 6:35 AM | |

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| 20. The chi-square test is an approximate test. The approximation is relatively good if the   |  |  |  | | --- | --- | --- | |  | a. | expected number of cases in each category is 10 or more. | |  | b. | expected number of cases in each category is 5 or more. | |  | c. | expected number of cases in each category is 3 or more. | |  | d. | actual number of cases in each category is 10 or more. | |  | e. | actual number of cases in each category is 5 or more. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | The approximation is relatively good if the expected number of cases in each category is 5 or more. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 6:44 AM | | *DATE MODIFIED:* | 7/31/2017 6:45 AM | |

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| 21. A researcher calculates a chi-square test statistic of 8.56. At a = .05 and n= 3, the critical value of the chi-square statistic is 7.81. What is the appropriate statistical conclusion?   |  |  |  | | --- | --- | --- | |  | a. | Reject the null hypothesis | |  | b. | Can't determine; not enough information given | |  | c. | Fail to reject the null hypothesis | |  | d. | Reject the alternative hypothesis | |  | e. | Conclude that the null hypothesis is true |  |  |  | | --- | --- | | *ANSWER:* | a | | *RATIONALE:* | The appropriate conclusion is to reject the null hypothesis. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 6:48 AM | | *DATE MODIFIED:* | 7/31/2017 7:03 AM | |

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| 22. A researcher had calculated the sample chi-square test statistic to be equal to |2 = 7.71. For an alpha level of 0.10 and 4 degrees of freedom, the critical value of the chi-square statistic is 7.78. The appropriate conclusion is that the   |  |  |  | | --- | --- | --- | |  | a. | sample result is likely to be attributed to chance alone. | |  | b. | null hypothesis should not be rejected. | |  | c. | null hypothesis should be rejected. | |  | d. | Both a and b are correct. | |  | e. | The alternative hypothesis is true. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | The appropriate conclusion is that the sample result is likely to be attributed to chance alone, and the null hypothesis should not be rejected. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 7:04 AM | | *DATE MODIFIED:* | 7/31/2017 7:06 AM | |

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| 23. A clothing manufacturer traditionally makes sweatshirts from three different fabrics: A, B and C. Over the years, the percentages sold of each fabric were 50, 35, and 15, respectively. Recently, the manufacturer began producing running suits from the same three fabrics. During the first three months of production, the company received orders for 6,500 suits made from fabric A, 3,400 from fabric B, and 2,700 from fabric C. What would be the expected number of running suits made of fabric B sold during the first three months based on past years' sales results of sweatshirts?   |  |  |  | | --- | --- | --- | |  | a. | 3,500 | |  | b. | 1,190 | |  | c. | 4,410 | |  | d. | 4,500 | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | c | | *RATIONALE:* | The expected number would be 4,410. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 7:09 AM | | *DATE MODIFIED:* | 7/31/2017 7:10 AM | |

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| 24. A clothing manufacturer traditionally makes sweatshirts from three different fabrics: A, B and C. Over the years, the percentages sold of each fabric were 50, 35, and 15, respectively. Recently, the manufacturer began producing running suits from the same three fabrics. During the first three months of production, the company received orders for 6,500 suits made from fabric A, 3,400 from fabric B, and 2,700 from fabric C. What is the appropriate test to determine whether sales results of the new running suit are similar to what would be expected given the previous sales history of sweatshirts made of the three fabrics?   |  |  |  | | --- | --- | --- | |  | a. | Regression analysis | |  | b. | z-test for comparing sample mean against a standard | |  | c. | Chi-square test | |  | d. | z-test for comparing sample proportion against a standard | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | c | | *RATIONALE:* | The chi-square test would be appropriate. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 7:12 AM | | *DATE MODIFIED:* | 7/31/2017 7:15 AM | |

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| 25. A clothing manufacturer traditionally makes sweatshirts from three different fabrics: A, B and C. Over the years, the percentages sold of each fabric were 50, 35, and 15, respectively. Recently, the manufacturer began producing running suits from the same three fabrics. During the first three months of production, the company received orders for 6,500 suits made from fabric A, 3,400 from fabric B, and 2,700 from fabric C. What is the value of the test statistic useful for determining how well the pattern of sales (by fabric type) of the new running suit corresponds to the expected pattern?   |  |  |  | | --- | --- | --- | |  | a. | 136.21 | |  | b. | 584.81 | |  | c. | 0.973 | |  | d. | 422.13 | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | The value of the test statistic would be 584.81. See 17-4: Testing Hypotheses About Individual Variables. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 7:20 AM | | *DATE MODIFIED:* | 9/21/2017 11:15 AM | |

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| 26. The confidence interval is   |  |  |  | | --- | --- | --- | |  | a. | a measure of the variation in responses for continuous measures. | |  | b. | the level of error related to the probability of rejecting the null hypothesis. | |  | c. | a counting of the number of cases that fall into the various response categories. | |  | d. | a projection of the range within which a population parameter will lie at a given level of confidence based on a statistic obtained from an appropriately drawn sample. | |  | e. | the arithmetic mean value across all responses for a variable. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | The confidence interval is a projection of the range within which a population parameter will lie at a given level of confidence based on a statistic obtained from an appropriately drawn sample. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *DATE CREATED:* | 7/31/2017 7:26 AM | | *DATE MODIFIED:* | 7/31/2017 7:28 AM | |

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| 27. The population mean is hypothesized to be 200. The sample mean (x-bar) is 220. The sample size (n) is 25. The sample standard deviation (s) is 15. The estimated value of the standard error of the mean is   |  |  |  | | --- | --- | --- | |  | a. | 2.6. | |  | b. | 3.0. | |  | c. | 1.6. | |  | d. | 0.6. | |  | e. | 0.9. |  |  |  | | --- | --- | | *ANSWER:* | e | | *RATIONALE:* | The estimated value of the standard error of the mean is 0.9. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 7:31 AM | | *DATE MODIFIED:* | 7/31/2017 7:32 AM | |

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| 28. The population mean is hypothesized to be 200. The sample mean (x-bar) is 220. The sample size (n) is 25. The sample standard deviation (s) is 15. The median split for this sample is   |  |  |  | | --- | --- | --- | |  | a. | 100. | |  | b. | 110. | |  | c. | 200. | |  | d. | 220. | |  | e. | There is not enough information to determine the median split. |  |  |  | | --- | --- | | *ANSWER:* | e | | *RATIONALE:* | There is not enough information to determine the median split. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 7:41 AM | | *DATE MODIFIED:* | 7/31/2017 7:42 AM | |

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| 29. The population mean is hypothesized to be 200. The sample mean (x-bar) is 220. The sample size (n) is 25. The sample standard deviation (s) is 15. The degrees of freedom would equal   |  |  |  | | --- | --- | --- | |  | a. | 14. | |  | b. | 24. | |  | c. | 219. | |  | d. | 199. | |  | e. | Cannot tell from the given information |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | The degrees of freedom would equal 24. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 7:45 AM | | *DATE MODIFIED:* | 7/31/2017 7:47 AM | |

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| 30. Which of the following statements about mean values is NOT true?   |  |  |  | | --- | --- | --- | |  | a. | Mean values can be calculated for any variable in a data set. | |  | b. | Mean values are only meaningful for continuous measures. | |  | c. | Mean values should be presented with several decimals to improve their precision. | |  | d. | The mean is only useful with equal-interval scales. | |  | e. | Outliers can have a very strong influence on a sample mean. |  |  |  | | --- | --- | | *ANSWER:* | c | | *RATIONALE:* | All of the statements are true except that mean values should be presented with several decimals to improve their precision. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 7:50 AM | | *DATE MODIFIED:* | 7/31/2017 7:56 AM | |

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| 31. Which of the following statements is TRUE with respect to outliers?   |  |  |  | | --- | --- | --- | |  | a. | They represent special cases that should be treated differently from the rest of the observations. | |  | b. | They can be located using frequency analysis. | |  | c. | They can have a very strong influence on the sample mean. | |  | d. | All of these are correct. | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | All of these are true. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 8:01 AM | | *DATE MODIFIED:* | 9/21/2017 11:15 AM | |

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| 32. When it comes to standard deviations, if everyone were basically the same on some characteristic or felt the same way about some topic or object, the standard deviation would be   |  |  |  | | --- | --- | --- | |  | a. | very small. | |  | b. | difficult, if not impossible, to calculate. | |  | c. | very large. | |  | d. | None of these are correct. | |  | e. | very small and difficult to calculate. |  |  |  | | --- | --- | | *ANSWER:* | a | | *RATIONALE:* | The standard deviation would be very small. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 8:05 AM | | *DATE MODIFIED:* | 9/21/2017 11:16 AM | |

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| 33. Converting from continuous to categorical measures   |  |  |  | | --- | --- | --- | |  | a. | results in loss of information about a variable. | |  | b. | works because higher levels of measurement have all the properties of lower levels of measurement. | |  | c. | in many cases is really useful for interpreting the results. | |  | d. | is a process that really isn't subject to a lot of rules. | |  | e. | All of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | e | | *RATIONALE:* | All of these are correct. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 8:10 AM | | *DATE MODIFIED:* | 7/31/2017 8:14 AM | |

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| 34. Which of the following is FALSE about the use of percentages when reporting results?   |  |  |  | | --- | --- | --- | |  | a. | Unless decimals have a special purpose, they should be omitted. | |  | b. | Percentages should be rounded to whole numbers. | |  | c. | Decimals may convey greater accuracy than the figures can support. | |  | d. | It is unnecessary and redundant to include percentages along with the raw count for frequency analyses. | |  | e. | All of these statements are true concerning the use of percentages when reporting results. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | All of the statements are true except that it is unnecessary and redundant to include percentages along with the raw count for frequency analyses. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 8:21 AM | | *DATE MODIFIED:* | 7/31/2017 8:25 AM | |

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| 35. To calculate sampling error for a proportion, which of the following pieces of information is NOT needed?   |  |  |  | | --- | --- | --- | |  | a. | The z-score representing the desired degree of confidence | |  | b. | The number of valid cases overall for the proportion | |  | c. | The sample standard deviation | |  | d. | The relevant proportion obtained from the sample | |  | e. | All of these are relevant and necessary pieces of information for the calculation of sampling error for a proportion. |  |  |  | | --- | --- | | *ANSWER:* | c | | *RATIONALE:* | All of these are needed to calculate sampling error except the sample standard deviation. See 17-1: Basic Univariate Statistics: Categorical Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 8:28 AM | | *DATE MODIFIED:* | 7/31/2017 8:30 AM | |

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| 36. Which of the following statements concerning confidence intervals is FALSE?   |  |  |  | | --- | --- | --- | |  | a. | A confidence interval can be inferred when a probabilistic sample is drawn. | |  | b. | A confidence interval is produced by calculating the degree of nonsampling error for the particular statistic. | |  | c. | Precision can be increased by increasing sample size or decreasing the confidence level. | |  | d. | A narrower confidence interval can be obtained by increasing the sample size. | |  | e. | A narrower confidence interval can be obtained by decreasing the degree of confidence desired. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | All of these are true except that a confidence interval is produced by calculating the degree of nonsampling error for the particular statistic. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 8:35 AM | | *DATE MODIFIED:* | 7/31/2017 8:37 AM | |

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| 37. Because \_\_\_\_ and \_\_\_\_ measures are similar when it comes to analysis, many researchers refer to both types as continuous measures.   |  |  |  | | --- | --- | --- | |  | a. | interval, ratio | |  | b. | nominal, interval | |  | c. | ordinal, ratio | |  | d. | nominal, ordinal | |  | e. | ratio, nominal |  |  |  | | --- | --- | | *ANSWER:* | a | | *RATIONALE:* | Because interval and ratio measures are similar when it comes to analysis, many researchers refer to both types as continuous measures. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 8:39 AM | | *DATE MODIFIED:* | 7/31/2017 8:41 AM | |

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| 38. Descriptive statistics include all of the following measures EXCEPT   |  |  |  | | --- | --- | --- | |  | a. | median. | |  | b. | confidence intervals. | |  | c. | skewness. | |  | d. | variance. | |  | e. | range. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | Descriptive statistics include all of these except confidence intervals. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 8:44 AM | | *DATE MODIFIED:* | 7/31/2017 8:46 AM | |

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| 39. For which of the following types of measures does the mean NOT provide a meaningful value?   |  |  |  | | --- | --- | --- | |  | a. | Ratio | |  | b. | Equal-interval scales | |  | c. | Interval | |  | d. | Ordinal | |  | e. | Continuous measures |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | All of these are aided with the mean except the ordinal type. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 8:49 AM | | *DATE MODIFIED:* | 7/31/2017 8:51 AM | |

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| 40. Which of the following statements concerning the sample standard deviation is FALSE?   |  |  |  | | --- | --- | --- | |  | a. | Sample standard deviation is a measure of the variation in responses. | |  | b. | Analysts reporting descriptive statistics for continuous measures should always report standard deviations along with mean values. | |  | c. | Standard deviation is meaningful and appropriate only for interval- and nominal-level measures. | |  | d. | An analyst must be aware of the concerns of spurious precision when reporting standard deviations. | |  | e. | Outliers can have a marked effect the calculation of a standard deviation. |  |  |  | | --- | --- | | *ANSWER:* | c | | *RATIONALE:* | All of these are true except that the standard deviation is meaningful and appropriate only for interval- and nominal-level measures. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 8:54 AM | | *DATE MODIFIED:* | 7/31/2017 8:57 AM | |

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| 41. Which of the following statements if FALSE concerning the conversion of continuous measures to categorical measures?   |  |  |  | | --- | --- | --- | |  | a. | When converting, there is no loss of information about a variable. | |  | b. | Because higher levels of measurement have all the properties of measures lower in the hierarchy, conversion is perfectly acceptable. | |  | c. | In many cases, conversion is advisable for aiding in interpretation of research study results. | |  | d. | Analyses should be performed using the highest level of measurement possible for a particular variable. | |  | e. | A simple solution would be to provide both types of results. |  |  |  | | --- | --- | | *ANSWER:* | a | | *RATIONALE:* | All of these are true except that when converting, there is no loss of information about the variable. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 9:00 AM | | *DATE MODIFIED:* | 7/31/2017 9:02 AM | |

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| 42. Which of the following is TRUE about hypothesis testing?   |  |  |  | | --- | --- | --- | |  | a. | The typical goal is to reject the alternative hypothesis in favor of the null hypothesis. | |  | b. | A hypothesis may be rejected but can never be accepted completely. | |  | c. | Marketing research studies attempt to prove results. | |  | d. | The null hypothesis is assumed to be false for the purpose of the test. | |  | e. | All of these are true about hypothesis testing. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | A hypothesis may be rejected but can never be accepted completely. See 17-3: Hypothesis Testing. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 9:06 AM | | *DATE MODIFIED:* | 7/31/2017 9:08 AM | |

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| 43. The reporting technique for rating scale questions that presents the percentage of respondents who checked one of the top two positions on a rating scales is known as the   |  |  |  | | --- | --- | --- | |  | a. | ad hoc category combination. | |  | b. | response mashup technique. | |  | c. | expedient analysis technique. | |  | d. | two-box technique. | |  | e. | response alignment technique. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | This describes the two-box technique. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 9:12 AM | | *DATE MODIFIED:* | 7/31/2017 9:14 AM | |

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| 44. Which of the following would be an appropriate interpretation of a p-value?   |  |  |  | | --- | --- | --- | |  | a. | A p-value of p < 0.0001 is 'highly significant' and therefore much more valid than a p value of 0.05. | |  | b. | When a null hypothesis is rejected at some predetermined p level, sampling error is an unlikely explanation of the results, given that the null hypothesis is true. | |  | c. | When a p-value shows significance, managerial and practical significance can be assumed. | |  | d. | The probability that the research hypothesis is true is equal to 1 minus the p-value. | |  | e. | A p-value represents the probability that the results occurred because of sampling error. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | When a null hypothesis is rejected at some predetermined p level, sampling error is an unlikely explanation of the results, given that the null hypothesis is true. See 17-3: Hypothesis Testing. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 9:21 AM | | *DATE MODIFIED:* | 7/31/2017 9:23 AM | |

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| 45. Which of the following statements about hypothesis testing is NOT true?   |  |  |  | | --- | --- | --- | |  | a. | It is a means for establishing standards for making decisions about whether to accept sample results as valid for the overall population. | |  | b. | It applies to both univariate and multivariate analyses. | |  | c. | It lets a researcher know with certainty that a sample result is true for the population. | |  | d. | It is generally what marketers begin with when preparing to launch a research study. | |  | e. | All of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | c | | *RATIONALE:* | All of the statements are true except that it lets a researcher know with certainty that a sample result is true for the population. See 17-3: Hypothesis Testing. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 9:26 AM | | *DATE MODIFIED:* | 7/31/2017 9:29 AM | |

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| 46. When a sample mean is compared against a standard for a large sample, which statistic is calculated?   |  |  |  | | --- | --- | --- | |  | a. | t | |  | b. | p | |  | c. | |2 | |  | d. | s | |  | e. | z |  |  |  | | --- | --- | | *ANSWER:* | e | | *RATIONALE:* | z is calculated. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Remember | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 9:34 AM | | *DATE MODIFIED:* | 7/31/2017 9:38 AM | |

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| 47. Hypothesis testing involves two mutually exclusive hypotheses that are known as   |  |  |  | | --- | --- | --- | |  | a. | null and alternative. | |  | b. | null and conformative. | |  | c. | primary and alternate. | |  | d. | true and false. | |  | e. | normal and variant. |  |  |  | | --- | --- | | *ANSWER:* | a | | *RATIONALE:* | These hypotheses are null and alternative. See 17-3: Hypothesis Testing. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 9:46 AM | | *DATE MODIFIED:* | 7/31/2017 9:49 AM | |

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| 48. The FactFinder Research firm conducted a survey for a national food manufacturer, and one of the issues addressed by the research was to determine how many pounds of fish were annually consumed per capita. In the survey, they found one person who consumed only one pound of fish per year while 10 people reported 200 pounds per year. The range was   |  |  |  | | --- | --- | --- | |  | a. | 200. | |  | b. | 1 to 2,000. | |  | c. | 201. | |  | d. | 199. | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | | *RATIONALE:* | The range was 199. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 9:52 AM | | *DATE MODIFIED:* | 7/31/2017 9:55 AM | |

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| 49. Which of the following is true regarding the standard deviation?   |  |  |  | | --- | --- | --- | |  | a. | It indicates the degree of variation in the values in such a way as to be translatable into a normal curve. | |  | b. | One standard deviation above and below the midpoint in a normal distribution includes approximately 68% of the area underneath the curve. | |  | c. | + or − 1.96 standard deviations above and below the midpoint in a normal distribution includes 95% of the area underneath the curve. | |  | d. | The standard deviation can be approximated by dividing the range of the data by 6. | |  | e. | All of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | e | | *RATIONALE:* | All of these are correct. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 9:59 AM | | *DATE MODIFIED:* | 7/31/2017 10:02 AM | |

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| 50. In the following data set, what is the median? 12, 0, 0, 1, 1, 1, 6, 10, 11.   |  |  |  | | --- | --- | --- | |  | a. | 4.66 | |  | b. | 1 | |  | c. | 42 | |  | d. | 6 | |  | e. | 0 |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | The median would be 1. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 10:06 AM | | *DATE MODIFIED:* | 7/31/2017 10:09 AM | |

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| 51. Kit Kat candy bar executives make the following statement: "Our most likely estimate of Kit Kat's ad recall rate is 65%. In addition, we are 95% confident that Kit Kat's ad recall rate in the population falls between 62% and 68%." This illustrates an example of   |  |  |  | | --- | --- | --- | |  | a. | basic descriptive statistics. | |  | b. | using statistical inference to estimate a population parameter based upon sample statistics. | |  | c. | using statistical inference to estimate a statistic based upon a population parameter. | |  | d. | hypothesis testing. | |  | e. | None of these are correct. |  |  |  | | --- | --- | | *ANSWER:* | b | | *RATIONALE:* | This is an example of using statistical inference to estimate a population parameter based upon sample statistics. See 17-2: Basic Univariate Statistics: Continuous Measures. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Apply | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 10:13 AM | | *DATE MODIFIED:* | 9/21/2017 11:16 AM | |

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| 52. A sampling procedure is statistically more efficient than another procedure if, for a given sample size, it results in a larger sampling error.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 10:23 AM | | *DATE MODIFIED:* | 7/31/2017 10:25 AM | |

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| 53. The logic of hypothesis testing is that if we assume that the hypothesized value is the population parameter, then, at the 95% level of confidence, if we took 100 separate samples, the z-value for 95 of those samples would fall between + or − 1.96.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 10:28 AM | | *DATE MODIFIED:* | 7/31/2017 10:29 AM | |

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| 54. In very few cases, it's important to report standard deviations along with mean values.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 10:36 AM | | *DATE MODIFIED:* | 7/31/2017 10:37 AM | |

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| 55. The more confidence we want to have in the interval estimate, the larger the sample size should be.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 10:42 AM | | *DATE MODIFIED:* | 7/31/2017 10:43 AM | |

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| 56. Both nominal and ordinal measures are easily used to group respondents or objects into groups or categories.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 10:46 AM | | *DATE MODIFIED:* | 7/31/2017 10:50 AM | |

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| 57. In using percentages for reporting results it is reasonable to report percentages to two decimal places.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 10:57 AM | | *DATE MODIFIED:* | 7/31/2017 10:57 AM | |

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| 58. A histogram is a form of bar chart that is based on information from a frequency count.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 10:59 AM | | *DATE MODIFIED:* | 7/31/2017 10:59 AM | |

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| 59. You can "prove" that the alternative hypothesis is true if the null hypothesis is rejected.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 11:02 AM | | *DATE MODIFIED:* | 7/31/2017 11:02 AM | |

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| 60. Even if it will help managers interpret results, you should not convert continuous measures to categorical measures.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 11:03 AM | | *DATE MODIFIED:* | 7/31/2017 11:04 AM | |

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| 61. An outlier is an observation so different from the rest of the observations that the analyst chooses to treat it as a special case.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 11:05 AM | | *DATE MODIFIED:* | 7/31/2017 11:06 AM | |

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| 62. A statistical test to determine whether some observed pattern of frequencies corresponds to an expected pattern is called a chi-square goodness-of-fit test.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 11:07 AM | | *DATE MODIFIED:* | 7/31/2017 11:07 AM | |

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| 63. Because both nominal and ordinal measures are easily used to group respondents or objects into groups or categories, researchers often refer to these types of measures as categorical measures.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 11:09 AM | | *DATE MODIFIED:* | 7/31/2017 11:09 AM | |

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| 64. Frequency analysis consists of counting the number of cases that fall into the various response categories.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.02 - Describe frequency analysis. | | *DATE CREATED:* | 7/31/2017 11:11 AM | | *DATE MODIFIED:* | 7/31/2017 11:11 AM | |

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| 65. A histogram is a bar chart that is based on information from a frequency count.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.01 - Distinguish between univariate and multivariate analyses. | | *DATE CREATED:* | 7/31/2017 11:14 AM | | *DATE MODIFIED:* | 7/31/2017 11:14 AM | |

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| 66. A sampling interval is a projection of the range within which a population parameter will lie at a given level of confidence based on a statistic obtained from an appropriately drawn sample.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 11:16 AM | | *DATE MODIFIED:* | 7/31/2017 11:16 AM | |

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| 67. The confidence interval only takes sampling error into account.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 11:18 AM | | *DATE MODIFIED:* | 7/31/2017 11:18 AM | |

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| 68. The arithmetic mean value across all responses for a variable is called the standard mean.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 11:21 AM | | *DATE MODIFIED:* | 7/31/2017 11:21 AM | |

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| 69. The median is the most commonly calculated statistic for both interval- and ratio-level measures.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 11:23 AM | | *DATE MODIFIED:* | 7/31/2017 11:23 AM | |

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| 70. The hypothesis that a proposed result is not true for the population is called the alternative hypothesis.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 11:25 AM | | *DATE MODIFIED:* | 7/31/2017 11:25 AM | |

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| 71. An observation so different in magnitude from the rest of the observations that the analyst chooses to treat it as a special case is called an outlier.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.04 - Discuss confidence intervals for proportions and means. | | *DATE CREATED:* | 7/31/2017 11:27 AM | | *DATE MODIFIED:* | 7/31/2017 11:28 AM | |

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| 72. The chi-square goodness-of-fit test is a statistical test to determine whether some observed pattern of frequencies corresponds to an expected pattern.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | True / False | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.05 - Overview the basic purpose of hypothesis testing. | | *DATE CREATED:* | 7/31/2017 11:29 AM | | *DATE MODIFIED:* | 7/31/2017 11:29 AM | |

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| 73. Discuss the most commonly used descriptive statistics.   |  |  | | --- | --- | | *ANSWER:* | The most commonly used descriptive statistics for continuous measures (interval- or ratio-level measures) are the mean or arithmetic average and the standard deviation. The mean is a measure of central tendency; the standard deviation provides a convenient measure of the dispersion or spread of responses. | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *REFERENCES:* | Understand | | *QUESTION TYPE:* | Essay | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | 17.03 - Describe descriptive statistics | | *DATE CREATED:* | 7/31/2017 11:31 AM | | *DATE MODIFIED:* | 7/31/2017 11:32 AM | |