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| 1. What is NOT one of the uses of statistics?

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| --- | --- | --- |
|   | a.  | to collect numerical data |
|   | b.  | to interpret numerical data |
|   | c.  | to summarize numerical data |
|   | d.  | to organize numerical data |

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| --- | --- |
| *ANSWER:* | a |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2. What do we call a table that uses an organized arrangement to indicate how often each score or group of scores occurs in a set of data?

|  |  |  |
| --- | --- | --- |
|   | a.  | histogram |
|   | b.  | frequency distribution |
|   | c.  | frequency polygon |
|   | d.  | boxplot |

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| *ANSWER:* | b |

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| 3. Which of the following pairs includes techniques used to graphically represent the frequency of scores in a set of data?

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| --- | --- | --- |
|   | a.  | frequency distributions and frequency polygons |
|   | b.  | frequency distributions and scatter diagrams |
|   | c.  | histograms and scatter diagrams |
|   | d.  | histograms and frequency polygons |

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| *ANSWER:* | d |

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| 4. What is a histogram?

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| --- | --- | --- |
|   | a.  | a graph in which paired scores for each subject are plotted as single points |
|   | b.  | a bar graph that presents data from a frequency distribution |
|   | c.  | a line figure that presents data from a frequency distribution |
|   | d.  | a graph that represents a symmetrical or bell-shaped curve |

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| *ANSWER:* | b |

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| 5. What is a frequency polygon?

|  |  |  |
| --- | --- | --- |
|   | a.  | a line figure that presents data from a frequency distribution |
|   | b.  | a graph that represents a symmetrical or bell-shaped curve |
|   | c.  | a graph in which paired scores for each subject are plotted as single points |
|   | d.  | a bar graph that presents data from a frequency distribution |

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| *ANSWER:* | a |

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| 6. Histograms and frequency polygons typically list possible scores on the horizontal axis. What information is recorded on the vertical axis?

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|   | a.  | standard deviation of scores |
|   | b.  | category of scores |
|   | c.  | frequency of scores |
|   | d.  | mean of scores |

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| --- | --- |
| *ANSWER:* | c |

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| 7. One use of statistics is to organize and summarize data. Which statistics are used for this purpose?

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| --- | --- | --- |
|   | a.  | descriptive statistics |
|   | b.  | inferential statistics |
|   | c.  | normal statistics |
|   | d.  | correlational statistics |

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| *ANSWER:* | a |

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| 8. How is the median determined?

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| --- | --- | --- |
|   | a.  | Add up all the scores and divide by the number of scores. |
|   | b.  | Arrange the scores in increasing order and find the middle score. |
|   | c.  | Divide the middle score by the number of scores. |
|   | d.  | Find the most frequently occurring score. |

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| *ANSWER:* | b |

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| 9. If you add all the scores in a group of scores together and divide by the number of scores, what is the result?

|  |  |  |
| --- | --- | --- |
|   | a.  | mode |
|   | b.  | variance |
|   | c.  | median |
|   | d.  | mean |

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| *ANSWER:* | d |

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| 10. What is the mode of the following set of scores: 1, 2, 5, 6, 6?

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| --- | --- | --- |
|   | a.  | 2 |
|   | b.  | 4 |
|   | c.  | 5 |
|   | d.  | 6 |

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| --- | --- |
| *ANSWER:* | d |

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| 11. What occurs when the distribution of scores in a group of scores is symmetrical?

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| --- | --- | --- |
|   | a.  | The mean, median, and mode are relatively close together in value. |
|   | b.  | Only the mean and mode are relatively close together in value. |
|   | c.  | The mean, median, and mode are relatively far apart in value. |
|   | d.  | Only the median and mode are relatively close together in value. |

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| *ANSWER:* | a |

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| 12. Which statement best describes a skewed distribution?

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| --- | --- | --- |
|   | a.  | The scores in the distribution are very similar. |
|   | b.  | The scores in the distribution are highly varied. |
|   | c.  | The distribution is not symmetrical or balanced. |
|   | d.  | The distribution is symmetrical or balanced. |

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| *ANSWER:* | c |

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| 13. What do we call a distribution of scores that is not symmetrical and where many scores pile up at the low end of the scale?

|  |  |  |
| --- | --- | --- |
|   | a.  | normal distribution |
|   | b.  | negatively skewed distribution |
|   | c.  | positively skewed distribution |
|   | d.  | significant distribution |

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| *ANSWER:* | c |

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| 14. When a distribution of scores includes a few extreme scores (either extremely high or extremely low), which measure of central tendency is considered to be most accurate?

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| --- | --- | --- |
|   | a.  | average |
|   | b.  | median |
|   | c.  | mode |
|   | d.  | mean |

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| *ANSWER:* | b |

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| 15. Which statistical concept refers to how much the scores in a distribution tend to differ from the mean?

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| --- | --- | --- |
|   | a.  | variability |
|   | b.  | correlation |
|   | c.  | dispersion |
|   | d.  | central tendency |

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| *ANSWER:* | a |

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| 16. When your professor gives back an exam, the professor tells the class that the mean score was an 81. You received an 88. If you would like more information to be able to compare your grade to the grades of your classmates, which statistic would be most useful?

|  |  |  |
| --- | --- | --- |
|   | a.  | standard deviation |
|   | b.  | mode |
|   | c.  | median |
|   | d.  | percentile of the mean score |

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| *ANSWER:* | a |

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| 17. Which statistic tells you how much variability exists in a distribution of scores?

|  |  |  |
| --- | --- | --- |
|   | a.  | standard deviation |
|   | b.  | central tendency |
|   | c.  | frequency distribution |
|   | d.  | correlation coefficient |

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| *ANSWER:* | a |

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| 18. Dr. Patel has two sections of the same course and gives an exam. Both classes have the same mean score on the exam. However, in Class A most students scored relatively close to the mean, while in Class B many students scored either much higher or much lower than the mean. Which statement best describes the distribution of grades for the two classes?

|  |  |  |
| --- | --- | --- |
|   | a.  | Not enough information is provided to draw any conclusion regarding the standard deviation. |
|   | b.  | The standard deviation will be smaller for Class A than for Class B. |
|   | c.  | The standard deviation will be the same for the two classes. |
|   | d.  | The standard deviation will be larger for Class A than for Class B. |

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| *ANSWER:* | b |

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| 19. Many human characteristics are dispersed in the population in a manner that is represented by a symmetrical or bell-shaped curve. What is the name for this type of distribution?

|  |  |  |
| --- | --- | --- |
|   | a.  | normal distribution |
|   | b.  | skewed distribution |
|   | c.  | significant distribution |
|   | d.  | common distribution |

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| *ANSWER:* | a |

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| 20. When a trait is normally distributed, where would you find most of the scores?

|  |  |  |
| --- | --- | --- |
|   | a.  | at the bottom of the distribution |
|   | b.  | at the top of the distribution |
|   | c.  | near the centre of the distribution |
|   | d.  | scattered uniformly across the distribution |

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| --- | --- |
| *ANSWER:* | c |

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| 21. When a trait has a normal distribution, which statistic is used to assess where any score falls in the distribution?

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| --- | --- | --- |
|   | a.  | variability |
|   | b.  | correlation coefficient |
|   | c.  | mean |
|   | d.  | standard deviation |

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| *ANSWER:* | d |

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| 22. When a trait has a normal distribution, approximately what percentage of scores falls within plus or minus one standard deviation from the mean?

|  |  |  |
| --- | --- | --- |
|   | a.  | 34 percent |
|   | b.  | 40 percent |
|   | c.  | 50 percent |
|   | d.  | 68 percent |

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| *ANSWER:* | d |

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| 23. SAT scores are normally distributed and have a mean of 500 and a standard deviation of 100. Which range of scores would include approximately 34 percent of all scores?

|  |  |  |
| --- | --- | --- |
|   | a.  | 300–400 |
|   | b.  | 400–600 |
|   | c.  | 450–550 |
|   | d.  | 500–600 |

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| *ANSWER:* | d |

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| 24. Which statistic indicates the percentage of individuals who score at or below a given score?

|  |  |  |
| --- | --- | --- |
|   | a.  | percentile |
|   | b.  | median |
|   | c.  | standard deviation |
|   | d.  | frequency |

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| *ANSWER:* | a |

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| 25. In gym class, everyone was tested to determine how many sit-ups they could do in one minute. Ming’s performance was at the 61st percentile. Which of the following is true?

|  |  |  |
| --- | --- | --- |
|   | a.  | Ming did fewer sit-ups than 61 percent of the students in the class. |
|   | b.  | Ming did 61 sit-ups. |
|   | c.  | Ming was one standard deviation above the mean. |
|   | d.  | Ming did more sit-ups than 61 percent of the students in the class. |

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| *ANSWER:* | d |

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| 26. What is a correlation coefficient?

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| --- | --- | --- |
|   | a.  | a numerical index of the degree of relationship that exists between two variables |
|   | b.  | a numerical index of the amount of variability in a set of data |
|   | c.  | an orderly arrangement of data indicating the frequency of each score |
|   | d.  | a numerical index that indicates the percentage of individuals who score at or below a specific score |

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| *ANSWER:* | a |

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| 27. The relationship between variable X and variable Y is such that high scores on variable X are generally associated with high scores on variable Y and low scores on variable X are generally associated with low scores on variable Y. What would be found if the correlation coefficient is calculated?

|  |  |  |
| --- | --- | --- |
|   | a.  | a strong correlation |
|   | b.  | a positive correlation |
|   | c.  | a weak correlation |
|   | d.  | a negative correlation |

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| *ANSWER:* | b |

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| 28. The relationship between variable X and variable Y is such that high scores on variable X are generally associated with low scores on variable Y and low scores on variable X are generally associated with high scores on variable Y. What would be found if the correlation coefficient is calculated?

|  |  |  |
| --- | --- | --- |
|   | a.  | a positive correlation |
|   | b.  | a negative correlation |
|   | c.  | a weak correlation |
|   | d.  | a strong correlation |

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| *ANSWER:* | b |

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| 29. What indicates the direction of a correlation?

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| --- | --- | --- |
|   | a.  | a positive or negative sign |
|   | b.  | the magnitude of the correlation coefficient |
|   | c.  | the standard deviation of the correlation coefficient |
|   | d.  | the number of decimal places |

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| *ANSWER:* | a |

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| 30. Which correlation coefficient represents the strongest relationship between two variables?

|  |  |  |
| --- | --- | --- |
|   | a.  | ?0?.66 |
|   | b.  | 0.00 |
|   | c.  | +.49 |
|   | d.  | +1.15 |

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| *ANSWER:* | a |

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| 31. What is a scatter diagram?

|  |  |  |
| --- | --- | --- |
|   | a.  | a graph that represents a symmetrical or bell-shaped curve |
|   | b.  | a line figure that presents data from a frequency distribution |
|   | c.  | a bar graph that presents data from a frequency distribution |
|   | d.  | a graph in which paired scores are plotted as single points |

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| *ANSWER:* | d |

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| 32. Which correlation coefficient would be illustrated by a scatter diagram with points scattered farthest from the straight line?

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| --- | --- | --- |
|   | a.  | ?0?.77 |
|   | b.  | ?0?.44 |
|   | c.  | +.22 |
|   | d.  | +.66 |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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| 33. What represents the percentage of variation in one variable that can be predicted based on a second variable?

|  |  |  |
| --- | --- | --- |
|   | a.  | correlation coefficient |
|   | b.  | coefficient of determination |
|   | c.  | coefficient of variability |
|   | d.  | correlation deviation |

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| *ANSWER:* | b |

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| 34. Variable X and variable Y have a correlation coefficient of +.50. How much of the variation of variable Y scores can be accounted for by variable X?

|  |  |  |
| --- | --- | --- |
|   | a.  | 5 percent |
|   | b.  | 10 percent |
|   | c.  | 25 percent |
|   | d.  | 50 percent |

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| --- | --- |
| *ANSWER:* | c |

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| 35. If you just conducted an experiment and wanted to demonstrate that there was a cause and effect relationship between variables, which type of statistic would you use for that purpose?

|  |  |  |
| --- | --- | --- |
|   | a.  | simple |
|   | b.  | inferential |
|   | c.  | descriptive |
|   | d.  | sophisticated |

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| *ANSWER:* | b |

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| 36. What do we call statistics for the interpretation of data and drawing conclusions?

|  |  |  |
| --- | --- | --- |
|   | a.  | descriptive statistics |
|   | b.  | correlational statistics |
|   | c.  | inferential statistics |
|   | d.  | sophisticated statistics |

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| --- | --- |
| *ANSWER:* | c |

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| 37. What do we call the assumption that there is no true relationship between two variables?

|  |  |  |
| --- | --- | --- |
|   | a.  | default hypothesis |
|   | b.  | null hypothesis |
|   | c.  | predictive hypothesis |
|   | d.  | research hypothesis |

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| --- | --- |
| *ANSWER:* | b |

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| 38. When evaluating a research study, what do the statistical techniques used allow the researcher to do?

|  |  |  |
| --- | --- | --- |
|   | a.  | accept the research hypothesis |
|   | b.  | reject the null hypothesis |
|   | c.  | reject the research hypothesis |
|   | d.  | accept the null hypothesis |

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| --- | --- |
| *ANSWER:* | b |

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| 39. What does it mean if the results of a research study are found to have statistical significance?

|  |  |  |
| --- | --- | --- |
|   | a.  | The probability that the observed findings are due to chance is very low. |
|   | b.  | The probability that the observed findings are due to chance is very high. |
|   | c.  | The results of the research study do not have practical applications. |
|   | d.  | The results of the research study have practical applications. |

|  |  |
| --- | --- |
| *ANSWER:* | a |

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| 40. The minimum requirement for statistical significance is that the probability of the obtained results occurring by chance is less than a certain proportion. What is the proportion that is typically used in psychology?

|  |  |  |
| --- | --- | --- |
|   | a.  | 1 chance in 10 |
|   | b.  | 2 chances in 10 |
|   | c.  | 1 chance in 100 |
|   | d.  | 5 chances in 100 |

|  |  |
| --- | --- |
| *ANSWER:* | d |

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