

SOCI102 - Exam 1 - Fall 2009

Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. A researcher is interested in the eating behavior of rats and selects a group of 25 rats to be tested in a research study. The group of 25 rats is a _____.
- a. sample
 - b. statistic
 - c. population
 - d. parameter

ANSWER: A

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2. A researcher is curious about the average IQ of registered voters in the state of Florida. If this average could be obtained, it would be an example of a _____.
- a. sample
 - b. statistic
 - c. population
 - d. parameter

ANSWER: D

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3. Although research questions typically concern a _____, a research study typically examines a _____.
- a. sample, population
 - b. statistic, sample
 - c. population, sample
 - d. parameter, population

ANSWER: C

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4. Statistical methods that use sample data to answer general questions about a population are called _____.
- a. parameters
 - b. statistics
 - c. descriptive statistics
 - d. inferential statistics

ANSWER: D

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5. Determining a person's reaction time would involve measurement on a(n) _____ scale of measurement.
- a. nominal
 - b. ordinal
 - c. interval
 - d. ratio

ANSWER: D

6. In an experiment, the researcher manipulates the _____ variable and measures changes in the _____ variable.
- a. population, sample
 - b. sample, population
 - c. independent, dependent
 - d. dependent, independent

ANSWER: C

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7. A variable that has an infinite number of possible values between any two specific measurements is called a(n) _____ variable.
- a. independent
 - b. dependent
 - c. discrete
 - d. continuous

ANSWER: D

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8. For the following scores, what is $\sum X^2$?

Scores: 3, 0, 5, 2

- a. 20
- b. 38
- c. 100
- d. 400

ANSWER: B

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9. For the following scores, what is $\sum X + 1$?

Scores: 3, 0, 5, 2

- a. 11
- b. 14
- c. 20
- d. 32

ANSWER: A

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10. What is the shape of the distribution for the following set of scores

25, 26, 24, 26, 25, 3, 7, 6, 15, 10, 25, 24, 26

- a. symmetrical
- b. positively skewed
- c. negatively skewed
- d. cumulative

ANSWER: C

11. In a grouped frequency distribution one interval is listed as 50-54. What is the width of this interval?
- a. 3 points
 - b. 4 points
 - c. 5 points
 - d. 54 points

ANSWER: C

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12. Frequency distribution polygons are intended for use with
- a. either interval or ratio scales of measurement
 - b. only ratio scales
 - c. either nominal or ordinal scales
 - d. only nominal scales

ANSWER: A

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13. A professor recorded scores from a 5-point quiz for each student in an introductory psychology class. If the data are presented in a frequency distribution graph, what type of graph should be used?
- a. a bar graph
 - b. a histogram
 - c. a polygon
 - d. either a histogram or a polygon

The following table shows a frequency distribution of exam scores.

Table 2-3

X	f
70-74	3
65-69	4
60-64	8
55-59	2
50-54	1
45-49	1

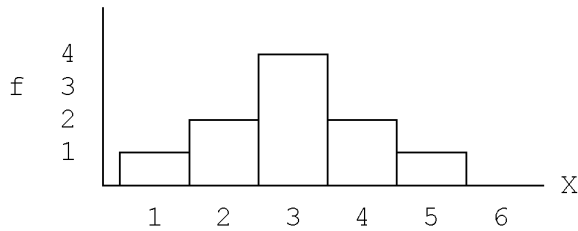
ANSWER: D

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14. Refer to Table 2-3. This is a grouped frequency distribution table where the scores have been grouped into class intervals using an interval width of _____.
- a. 4 points
 - b. 5 points
 - c. 9 points
 - d. 10 points

ANSWER: B

Exhibit 2-1

The following graph shows a frequency distribution of quiz scores.



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15. Refer to Exhibit 2-1. This graph is an example of a
- bar graph
 - histogram
 - polygon
 - None of the other choices is correct.

ANSWER: B

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16. Refer to Exhibit 2-1. For this distribution, how many individuals had a score of $X = 4$?
- 1
 - 2
 - 4
 - cannot be determined from the information given

ANSWER: B

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17. A sample of $n = 5$ scores has a mean of $M = 9$. What is ΣX for this sample?
- $9/5 = 1.80$
 - $5/9 = 0.555$
 - $5(9) = 45$
 - cannot be determined from the information given

ANSWER: C

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18. Which of the following actions will *always* change the value of the mean?
- changing the value of one score
 - adding a new score to the distribution
 - removing a score from the distribution
 - All 3 of the other choices are correct.

ANSWER: A

19. A population of $N = 10$ scores has a mean of $\mu = 80$. If 5 points are added to every score in the distribution, what is the value of the new mean?
- a. still $\mu = 80$
 - b. $\mu = 75$
 - c. $\mu = 85$
 - d. $\mu = 130$

ANSWER: C

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20. One sample of $n = 4$ scores has a mean of $M = 10$, and a second sample of $n = 8$ scores has a mean of $M = 20$. If the two samples are combined, the mean for the combined sample will be
- a. equal to 15
 - b. greater than 15 but less than 20
 - c. less than 15 but more than 10
 - d. None of the other choices is correct.

ANSWER: B

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21. A sample of $n = 40$ scores has a mean of $M = 75$. If one new score with a value of $X = 90$ is added to the sample, what will happen to the sample mean?
- a. The mean will increase.
 - b. The mean will decrease.
 - c. The mean will remain the same.
 - d. cannot be determined from the information provided

ANSWER: A

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22. In a sample of $n = 3$ scores, the first person has a score that is below the mean by 2 points and the second person is below the mean by 4 points. Which of the following provides the most accurate description of the score for the third person?
- a. It is above the mean.
 - b. It is above the mean by an average of 3 points.
 - c. It is above the mean by 6 points.
 - d. The score cannot be described based on the information given.

ANSWER: C

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23. A teacher gave a reading test to a class of 5th-grade students and computed the mean, median, and mode for the test scores. Which of the following statements *cannot* be an accurate description of the scores?
- a. No one had a score exactly equal to the mean.
 - b. No one had a score exactly equal to the median.
 - c. No one had a score exactly equal to the mode.
 - d. All of the other options are false statements.

ANSWER: C

24. For a distribution of scores, the mean is equal to the median. This distribution is most likely to be _____.
- a. symmetrical
 - b. positively skewed
 - c. negatively skewed
 - d. impossible to determine the shape

ANSWER: A

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25. A set of individuals is measured on a nominal scale. To determine the central tendency for the resulting measurements, a researcher should use the _____.
- a. mean
 - b. median
 - c. mode
 - d. It is impossible to determine central tendency for nominal measurements.

ANSWER: C

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26. The most commonly used measure of central tendency is _____.
- a. the mean
 - b. the median
 - c. the mode
 - d. the range

ANSWER: A

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27. The value for the *range* is determined by _____.
- a. the extreme scores (both high and low) in the distribution
 - b. the extremely high scores in the distribution
 - c. the middle scores in the distribution
 - d. all of the scores in the distribution

ANSWER: A

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28. The value for the *standard deviation* is determined by _____.
- a. the extreme scores (both high and low) in the distribution
 - b. the extremely high scores in the distribution
 - c. the middle scores in the distribution
 - d. all of the scores in the distribution

ANSWER: D

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29. In a population with a mean of $\mu = 50$, a score of $X = 45$ would have a deviation score of _____.
- a. 5
 - b. -5
 - c. 45
 - d. cannot be determined without more information

ANSWER: B

30. Which of the following symbols identifies the sample variance?

- a. s
- b. s^2
- c. σ
- d. σ^2

ANSWER: B

31. A population of $N = 5$ scores has $SS = 40$. What is the variance for this population?

- a. $40/5 = 8$
- b. $40/4 = 10$
- c. $5(40) = 200$
- d. $4(40) = 160$

ANSWER: A

32. A sample of $n = 5$ scores has $SS = 40$. What is the variance for this sample?

- a. $40/5 = 8$
- b. $40/4 = 10$
- c. $5(40) = 200$
- d. $4(40) = 160$

ANSWER: B

33. What is the variance for the following population of scores?

Scores: 2, 2, 2, 2

- a. 0
- b. 2
- c. 4
- d. 16

ANSWER: A

34. Which of the following samples would have the largest value for sample variance?

- a. 1, 3, 5
- b. 11, 13, 15
- c. 51, 53, 55
- d. All the samples would have exactly the same variance.

ANSWER: D

Problem

35. The frequency distribution below displays the distribution of age for a sample drawn from a community. Finish the table by completing the columns for percentages, and cumulative percentages.

ANSWER:

Age of Community Members

Class Intervals		Frequency	Percentage	Cumulative Percentage
	10 – 19	9	5.36	5.36
	20 – 29	17	10.12	15.48
	30 – 39	45	26.79	42.27
	40 – 49	56	33.33	75.60
	50 – 60	23	13.69	89.29
	60 – 69	10	5.95	95.24
	70 – 79	<u>8</u>	<u>4.76</u>	100.00
	Totals	168	100.00	