

Quiz 2 Review Questions

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1. Which of the following provides a measure of central location for the data?

- a. standard deviation
- b. mean
- c. variance
- d. range

2. When computing the mean of a set of values x_i , the value of $\sum x_i$

- a. can never be zero
- b. can never be negative
- c. must always be positive
- d. can be any value

3. In computing the mean of a sample, the value of $\sum x_i$ is divided by

- a. n
- b. $n - 1$
- c. $n + 1$
- d. $n - 2$

4. The median of a sample will always equal the

- a. mode
 - b. mean
 - c. 50th percentile
 - d. all of the above answers are correct
5. The median is a measure of
- a. relative dispersion
 - b. absolute dispersion
 - c. central location
 - d. relative location
6. The p th percentile is a value such that at least p percent of the observations are
- a. less than or equal to this value
 - b. less than this value
 - c. more than or equal to this value
 - d. more than this value
7. The difference between the largest and the smallest data values is the
- a. variance
 - b. interquartile range
 - c. range
 - d. coefficient of variation
8. The first quartile

- a. contains at least one third of the data elements
- b. is the same as the 25 th percentile
- c. is the same as the 50th percentile
- d. is the same as the 75 th percentile

9. Which of the following is not a measure of central location?

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

10. Which of the following is a measure of dispersion?

- a. percentiles
- b. quartiles
- c. interquartile range
- d. all of the above are measures of dispersion

11. The most frequently occurring value of a data set is called the

- a. range
- b. mode
- c. mean
- d. median

12. The interquartile range is used as a measure of variability to overcome what difficulty of the range?

- a. the sum of the range variances is zero
 - b. the range is difficult to compute
 - c. the range is influenced too much by extreme values
 - d. the range is negative
13. The descriptive measure of dispersion that is based on the concept of a deviation about the mean is
- a. the range
 - b. the interquartile range
 - c. the absolute value of the range
 - d. the standard deviation
14. The numerical value of the standard deviation can never be
- a. larger than the variance
 - b. zero
 - c. negative
 - d. smaller than the variance
15. The variance can never be
- a. zero
 - b. larger than the standard deviation
 - c. negative
 - d. smaller than the standard deviation
16. If two groups of numbers have the same mean, then

- a. their standard deviations must also be equal
 - b. their medians must also be equal
 - c. their modes must also be equal
 - d. None of these alternatives is correct
17. The sum of deviations of the individual data elements from their mean is
- a. always greater than zero
 - b. always less than zero
 - c. sometimes greater than and sometimes less than zero, depending on the data elements
 - d. always equal to zero
18. A numerical measure of linear association between two variables is the
- a. variance
 - b. coefficient of variation
 - c. correlation coefficient
 - d. standard deviation
19. The coefficient of correlation ranges between
- a. 0 and 1
 - b. -1 and +1
 - c. minus infinity and plus infinity
 - d. 1 and 100
20. Since the mode is the most frequently occurring data value, it

- a. can never be larger than the mean
- b. is always larger than the median
- c. is always larger than the mean
- d. None of these alternatives is correct.

21. Following observations are given for two variables.

y	x
5	2
8	12
18	3
20	6
22	11
30	19
10	18
7	9

- a. Compute and interpret P_{86} .
- b. Compute and interpret the correlation coefficient.
- c. _____ is the relevant diagram for the data above.