

Class: XI
Subject: Maths
Topic: Statistics and Mathematical reasoning
No. of Questions: 22

1. Mean of first n odd natural numbers is

- A. $\frac{n+1}{2}$
B. n
C. n + 1
D. none of these

2. Variance of the numbers 3, 7, 10, 18, 22 is equal to

- A. 12
B. 6.4
C. $\sqrt{49.2}$
D. 49.2

3. The quartile deviation of the following items 12, 7, 15, 10, 16, 17, 25 is

- A. 4.5
B. 13.5
C. 9
D. none of these

4. If the mean of first n natural numbers is equal to $\frac{n+7}{3}$, then n is equal to

- A. 10
B. 11
C. 12
D. none of these

5. The relationship between mean, median and mode for a moderately skewed distribution is
- A. mode = median – 2 mean
 - B. mode = 2 median – mean
 - C. mode = 2 median – 3 mean
 - D. mode = 3 median – 2 mean
6. If r is the correlation coefficient, then
- A. $r \geq 1$
 - B. $r \leq 1$
 - C. $|r| \geq 1$
 - D. $|r| \leq 1$
7. If the standard deviation of 1, 2, 3, 4, & ...,10 is σ , then the standard deviation of 11, 12, 13, 14, & ..20 is
- A. + 10
 - B. 10σ
 - C. σ
 - D. none of these
8. The mean of 50 observations is 36. If two observations 30 and 42 are deleted, then the mean of the remaining observations is
- A. 48
 - B. 36
 - C. 38
 - D. none of these
9. If the variance of a data is V , then its standard deviation is
- A. \sqrt{V}
 - B. $-\sqrt{V}$
 - C. V^2
 - D. Report Error

10. You are collecting data from newspapers and magazines about price fluctuations of a branded product. What type of data are you referring to?
- A. Primary data
 - B. Secondary data
 - C. Frequency distribution
 - D. None of above

11. Which of the following is a measure of central tendency?
- A. percentile
 - B. quartile
 - C. standard deviation
 - D. mode

12. For symmetric distribution the mean and the median should be
- A. Mean =Median
 - B. Mean > Median
 - C. Median > Mean
 - D. None

13. Find the mean of cubes of the first 'n' natural numbers.

- A. $\frac{n^2(n+1)^2}{4}$
- B. $\frac{n^2(n+1)}{4}$
- C. $\frac{n(n+1)}{4}$
- D. $\frac{n(n+1)^2}{4}$

14. Which of the following statements is/are correct?
- (i) Mode can be computed from histogram
 - (ii) Median is not independent of change of scale
 - (iii) Variance is independent of change of scale
- A) Only (i)
B) Only (ii)
C) Only (i) and (ii)
D) (i), (ii) and (iii)
15. For the following data, mean of x is found to be 7.3. The missing frequency is:
- | | | | | | |
|-----|-----|---|----|---|---|
| x | : 5 | 6 | 7 | 8 | 9 |
| f | : 4 | 6 | 12 | - | 8 |
- A. 10
B. 9
C. 8
D. 7
16. The average monthly salary of workers in a factory is Rs. 206. If the average monthly salary of males and females are Rs. 210 and Rs. 190 respectively, the percentage of female employed in the factory is
- A. 10
B. 50
C. 30
D. 20
17. The average marks of boys in a class is 52 and that of girls is 42. The average marks of boys and girls combined is 50. The percentage of boys in the class is
- A. 80
B. 60
C. 40
D. 20

18. The A.M. of n numbers of a series is \bar{x} . If the sum of first $(n - 1)$ terms is k , then the n^{th} number is:

- A. $\bar{x} - k$
- B. $n\bar{x} - k$
- C. $\bar{x} - nk$
- D. $n\bar{x} - nk$

19. The most stable measure of central tendency is:

- A. mean
- B. median
- C. mode
- D. none of these

20. The sum of the squares of deviations of a set of values is minimum when taken about:

- A. A.M.
- B. GM
- C. H.M.
- D. Median

21. Find the mean deviation about the median

| | | | | | | |
|-------|---|---|---|----|----|----|
| x_1 | 5 | 7 | 9 | 10 | 12 | 15 |
| f_i | 8 | 6 | 2 | 2 | 2 | 6 |

22. Find the mean of the following i) first 10 multiples of 3.