

CHAPTER-5 | Tales by Dots and Lines

QUIZ
PART-03

1. The mean of the numbers 2, 4, 6, 8, 10, 12, 14 is —
A. 6
B. 7
C. 8
D. 9 (C)

Explanation : The data is symmetric around 8, so the mean is 8.

2. The mean remains unchanged when the total distance of added values below the mean is _____ the total distance of added values above the mean.
A. Less than B. Greater than
C. Equal to D. Double (C)

Explanation: Equal balancing on both sides keeps the mean unchanged.

3. To keep the mean unchanged, values added above the mean must be balanced by values —
A. Equal to the maximum value
B. Below the mean
C. Equal to zero
D. Above the mean only (B)

Explanation: Values below the mean can balance values above the mean.

4. If two values greater than the mean are added, then to keep the mean unchanged we generally need —
A. No other value
B. A balancing value below the mean
C. A larger mean
D. A smaller data set (B)

Explanation: A value below the mean balances the effect of higher values.

5. The concept of "Unchanging Mean" is based on —
A. Counting observations
B. Balancing distances from the mean
C. Finding the median
D. Arranging data (B)

Explanation : The mean stays unchanged when deviations balance out.

6. If values equally distant from the mean are added on both sides, the mean will —
A. Increase
B. Decrease
C. Remain unchanged
D. Become zero (C)

Explanation : Equal positive and negative deviations cancel each other.

7. Mean = 18. Two numbers greater than the mean are 20 and 22. Which third number keeps the mean unchanged?
A. 12
B. 14
C. 16
D. 10 (A)

Explanation : $(20-18) + (22-18) = 2 + 4 = 6$. The third number must be 6 below 18, i.e., 12.

8. The mean of 2, 8, and 8 is —
A. 4 B. 5
C. 6 D. 8 (C)

Explanation : $(2 + 8 + 8) \div 3 = 18 \div 3 = 6$.

9. Mean of 3 numbers is 6. The numbers are 2, 8, and 8. Which number is less than the mean?
A. 8
B. 6
C. 2
D. None of these (C)

Explanation : Only 2 is less than the mean value 6.

10. Which statement is true about an unchanging mean?
A. The mean changes whenever values are added
B. Balanced additions can keep the mean unchanged
C. The mean always increases
D. The mean always decreases (B)

Explanation : If additions are balanced around the mean, the mean remains unchanged.