

CHAPTER-5 | Tales by Dots and Lines

QUIZ
PART-04

1. If every value in a data set increases by the same number, the mean will —

A. Increase by the same number
B. Decrease by the same number
C. Remain unchanged
D. Become zero (A)

Explanation : Adding a fixed number to every observation increases the mean by that fixed number.

2. If every value in a data set decreases by 1, the mean will —

A. Increase by 1
B. Remain unchanged
C. Decrease by 1
D. Become zero (C)

Explanation : Subtracting 1 from each observation decreases the mean by 1.

3. The mean changes by a fixed amount when —

A. Only one value changes
B. Every value changes by the same amount
C. Values are rearranged
D. Data is sorted (B)

Explanation : Equal changes to all observations produce the same change in the mean.

4. If the mean of a data set is 8 and 10 is added to every value, the new mean becomes —

A. 8
B. 10
C. 18
D. 80 (C)

Explanation : New mean = $8 + 10 = 18$.

5. Which operation does NOT change the spread of data but shifts the mean?

A. Adding the same number to all values
B. Rearranging the values
C. Counting observations
D. Finding the median (A)

Explanation : Adding a constant shifts all values and the mean by the same amount.

6. If all observations are increased by 5, the mean will increase by —

A. 1
B. 5
C. 10
D. It cannot be determined (B)

Explanation : The mean always changes by the same constant added to every value.

7. The mean of a data set is 7. After subtracting 2 from every value, the new mean is —

A. 5
B. 7
C. 9
D. 14 (A)

Explanation : New mean = $7 - 2 = 5$.

8. Which statement about the mean is correct?

A. It changes randomly
B. It depends only on the largest value
C. A uniform change in all values causes the same change in the mean
D. It is always equal to the median (C)

Explanation : The mean shifts exactly by the amount added to or subtracted from every value.

9. Consider the data: 5, 7, 10, 12, 4, 6, 7, 7, 8, 4. Its mean is —

A. 6
B. 7
C. 8
D. 9 (B)

Explanation : Sum = 70 and number of observations = 10, so mean = $70 \div 10 = 7$.

10. The main idea of "Relatively Unchanged Mean" is that the mean —

A. Changes by the same fixed amount added to or subtracted from all values
B. Always remains constant
C. Depends only on the maximum value
D. Depends only on the minimum value (A)

Explanation : When every observation changes equally, the mean changes by the same amount.