Statistics 220

The **mean** of a set of observations is the average. It is obtained by dividing the sum of data by the number of observations.

The formula is:

$$\text{Mean} = \frac{\text{Sum of data}}{\text{Number of observations}}$$

EXAMPLE:

Find the mean of the following times it took for an inspection to be completed.

8, 11, - 6, 22, - 3

SOLUTION:

$$\text{Mean} = \frac{8 + 11 + (-6) + 22 + (-3)}{5} = 6.4$$

EXAMPLE:

The set of scores on a shop safety test taken by new employees 12, 5, 7, —8, x, 10 these scores have a mean of 5. Find the value of x.

SOLUTION:

$$\text{Mean} = \frac{12 + 5 + 7 + (-8) + x + 10}{6} = 5$$

$\Rightarrow 26 + X = 30$

$\Rightarrow X = 4$

When there are changes in the number or the values of the observations in a set, the mean will be changed.

EXAMPLE:

The mean run time of a group of 20 parts is 65. Two other parts whose run time are 89 and 85 were added to the group. What is the new mean of the group of parts?

SOLUTION:

The mean of a quantity of 6 orders is 20. If we remove one of the numbers, the mean of the remaining numbers is 15. What is the number that was removed?

SOLUTION:

Using the formula: Sum = Mean x Number of numbers

EXAMPLE:

[The mean score is the time required to inspect an order in minutes] 10 Inspectors had a mean score of 70. The remaining 15 Inspectors had mean score of 80. What is the mean score of the entire class?

SOLUTION:

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