

Chapter - 11

Average

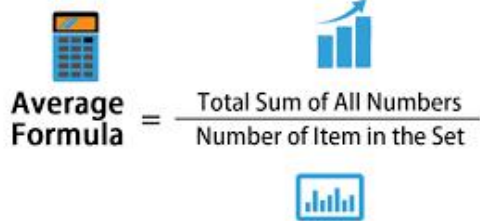
STUDY NOTES

This lesson will help you to:

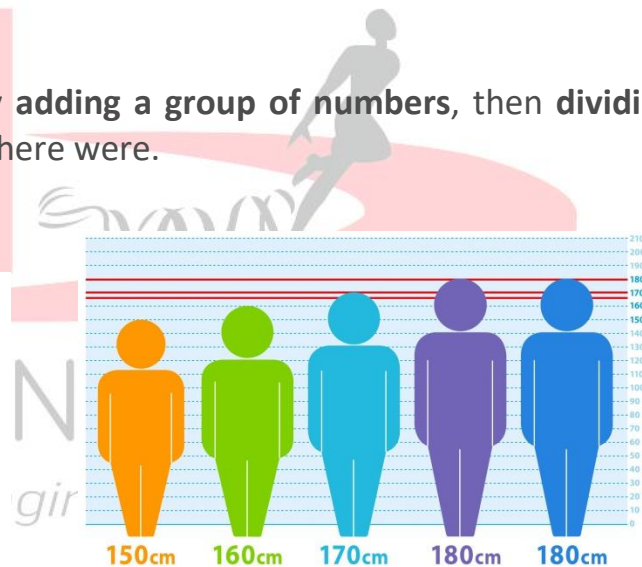
- Know about the concept of average
- Meaning of average
- Need of finding average
- Finding average of given data

Average

An average is a number obtained by **adding a group of numbers**, then **dividing the sum** by the number of **numbers** there were.



The diagram shows the average formula with a calculator icon on the left, a bar chart icon above the numerator, and another bar chart icon below the denominator. The formula is: Average Formula = $\frac{\text{Total Sum of All Numbers}}{\text{Number of Item in the Set}}$



(No. of person =5)

The average height of the given data = $\frac{150 + 160 + 170 + 180 + 180}{5}$

$$= \frac{840}{5} = 168 \text{ cm}$$

From the above example it is clear that

- ✧ An average is a number which roughly between the smallest and the largest number / quantity.
- ✧ It gives an idea of the general value of a group.
- ✧ The average is the arithmetical mean value of the number of given values/ quantities.

FINDING THE SUM OF THE QUANTITIES IF AVERAGE IS GIVEN:

As we already know



The diagram shows the average formula with icons: a calculator icon for 'Average Formula', a bar chart icon for 'Total Sum of All Numbers', and another bar chart icon for 'Number of Item in the Set'.

$$\text{Average Formula} = \frac{\text{Total Sum of All Numbers}}{\text{Number of Item in the Set}}$$



➤ **Sum of the given quantities = Average x No. of items/ quantities**

- ❖ Example: The average weight of 12 rice bags is 98 kg. What is the total weight of the rice bags?

- SOLUTION: Average weight= 98 kg

No. of bags = 12

The total weight of the rice bags = $98 \times 12 = 1176 \text{ kg.}$

POINTS TO REMEMBER:

- ✧ We use the word '**Average**' almost every day.
- ✧ Average is used to represent a large set of numbers with a single number.
- ✧ It is the number falls between the smallest and the greatest value of the given numbers.
- ✧ It gives idea about the general value of a group.
- ✧ It is the arithmetical mean value of given numbers.
- ✧ $Average = \frac{\text{Sum of the numbers}}{\text{Number of items/ quantities}}$

Number of items/ quantities

- ✧ Sum of the numbers = $Average \times \text{Number of items/ quantities}$

