

## 4. Average

Average means Arithmetic mean of the items

$$\text{and it is} = \frac{\text{Sum of Items}}{\text{Number of Items}}$$

When the difference between all the items is

the same, then the average is equal to  $\frac{n+1}{2}$

item, where n is the total number of items.

Average speed : If a man covers some journey from A to B at u km/hr. and returns

back to A at B uniform speed of v km/hr.,

then the average speed during the whole

journey is  $\frac{2uv}{u+v}$  km/hr

- (i) If x is added in all the items, then the average increases by x.

- (ii) If  $x$  is subtracted from all the items, then the average decreases by  $x$ .
- (iii) If every item is multiplied by  $x$ , then the average also gets multiplied by  $x$ .
- (iv) If every item is divided by  $x$ , then the average also gets divided by  $x$ .

Weighted average =

$$\frac{a_1x_1 + a_2x_2 + \dots + a_nx_n}{a_1 + a_2 + \dots + a_n}$$