

Q. 19

The mean of a set is  $\bar{x}$ . If each observation is divided by  $\alpha$  ( $\neq 0$ ) and then increased by 10, then the mean of new set is?

$$\bar{x} = \frac{\sum x_i}{n}$$

$$\Rightarrow \frac{\sum \left(\frac{x_i}{\alpha}\right)}{n} = \frac{\bar{x}}{\alpha}$$

$$\text{now } \frac{\sum \left(\frac{x_i}{\alpha} + 10\right)}{n} = \frac{\bar{x}}{\alpha} + \frac{n \times 10}{n}$$

$$\therefore \text{ new mean} = \frac{\bar{x} + \alpha \times 10}{\alpha}$$

Difficulty  $\rightarrow$  Easy