

PERCENTAGE

Key points to remember:

The term percent means for every hundred. A fraction whose denominator is 100 is called a percentage and the numerator of the fraction is called rate percent. It is denoted by the symbol %.

1. To find the percentage increase of a number

$$\% \text{ increase} = \frac{\text{Total increase}}{\text{initial value}} \times 100 = \frac{\text{final value} - \text{initial value}}{\text{initial value}} \times 100$$

2. To find the percentage decrease of a number

$$\% \text{ decrease} = \frac{\text{Total decrease}}{\text{initial value}} \times 100$$

3. If the price of a commodity increases by $r\%$ then reduction in consumption so as not to increase the expenditure is $\left(\frac{r}{100+r} \times 100\right)\%$

4. If the price of commodity decreases by $r\%$ then the increase in consumption so as not to decrease the expenditure is $\left(\frac{r}{100-r} \times 100\right)\%$

5. If A's income is $r\%$ more than that of B then B's income is less than that of A by $\left(\frac{r}{100+r} \times 100\right)\%$

6. If A's income is $r\%$ less than that of B then B's income is more than that of A by $\left(\frac{r}{100-r} \times 100\right)\%$