

# NUMBER SYSTEM - PERCENTAGES

Advertisements

## Percentage

Percent means many hundredths. Example:  $z\%$  is  $z$  percent which means  $z$  hundredths. It will be written as:

$$z\% = \frac{z}{100}$$

$$\frac{P}{Q} \text{ as percent: } (\frac{P}{Q} \times 100)\%$$

## Commodity

If the price of a commodity increases by  $R\%$ , then the reduction in consumption so as not to increase the expenditure is:

$$[\frac{R}{(100 + R)} \times 100]\%$$

If the price of a commodity decreases by  $R\%$ , then the increase in consumption so as not to decrease the expenditure is:

$$[\frac{R}{(100 - R)} \times 100]\%$$

## Population

The population of a city is  $P$  and let it increases at the rate of  $R\%$  per annum:

$$\text{Population after } t \text{ years: } P(1 + \frac{R}{100})^t$$

$$\text{Population } t \text{ years ago: } \frac{P}{(1 + \frac{R}{100})^t}$$

## Depreciation

Let  $V$  be the present value of machine. Suppose it depreciates at the rate of  $R\%$  per annum:

$$\text{Machine's value after } t \text{ years: } P(1 - \frac{R}{100})^t$$

$$\text{Machine's value } t \text{ years ago: } \frac{P}{(1 - \frac{R}{100})^t}$$

- If  $P$  is  $R\%$  more than  $Q$ , then  $Q$  is less than  $P$  by how many percent?

$$[\frac{R}{(100 + R)} \times 100]\%$$

- If  $P$  is  $R\%$  more than  $Q$ , then  $Q$  is more than  $P$  by how many percent?

$$[\frac{R}{(100 - R)} \times 100]\%$$

## Solved Examples

[Solved Examples](#)

[percentage.htm](#)