Comparing Quantities

Question 1. Convert each of the following into the decimal form:

(a) 25.2% (b) 0.15%

(c) 25%

Question 2. What per cent of

(a) 64 is 148.48? (b) 75 is 1225?

Question 3.A machine costs ₹ 7500. Its value decreases by 5% every year due to usage. What will be its price after one year?

Solution:

The cost price of the machine = ₹ 7500

Decrease in price = 5%

Decreased price after one year

$$= 7500\left(1-\frac{5}{100}\right) = 7500 \times \frac{95}{100}$$

= 75 × 95

= ₹ 7125

Hence, the required price = ₹ 7125.

Question 4.What sum of money lent out at 12 per cent p.a. simple interest would produce ₹ 9000 as interest in 2 years?

Solution: Here, Interest = ₹ 9000

Rate = 12% p.a.

Time = 2 years

Principal = ?

$$\text{Principal} = \frac{100 \times I}{R \times T}$$

$$= \frac{100 \times 9000}{12 \times 2} = ₹\ 37500$$

Hence, the required principal amount = ₹ 37500.

Question 5. Rashmi obtains 480 marks out of 600. Rajan obtains 560 marks out of 700. Whose performance is better?

Solution: Rashmi obtains 480 marks out of 600

Marks Percentage = 480600 × 100 = 80%

Rajan obtains 560 marks out of 700

Marks Percentage = 560700 × 100 = 80%

Since, both of them obtained the same per cent of marks i.e. 80%.

So, their performance cannot be compared.

Question 16.

₹ 9000 becomes ₹ 18000 at simple interest in 8 years. Find the rate per cent per annum.

Solution:

Here, Principal = ₹ 9000

Amount = ₹ 18000

Interest = Amount – Principal = ₹ 18000 – ₹ 9000 = ₹ 9000

$$R = \frac{100 \times I}{P \times T} = \frac{100 \times 9000}{9000 \times 8}$$
$$= \frac{25}{2}\% \text{ or } 12\frac{1}{2}\%$$

Hence, the required rate of interest = 1212%.

Question 17.

The cost of an object is increased by 12%. If the current cost is ₹ 896, what was its original cost?

Solution:

Here, rate of increase in cost = 12%

Increased Cost = ₹ 896

Original Cost = ?

Let the Original Cost be ₹ x

$$\therefore \text{Increase in cost} = 12\% \text{ of } x = \frac{12}{100}x$$
$$\text{Increased cost of the object} = x + \frac{12}{100}x$$
$$= \frac{112}{100}x$$
$$\therefore \quad \frac{112}{100}x = 896$$
$$\Rightarrow \quad x = \frac{896 \times 100}{112} = ₹\ 800$$

Hence, the required cost = ₹ 800.