



### Exercise 11A

Given:

Retail price = Rs. 37950

$$\therefore \left( \frac{11}{10} x \times \frac{23}{20} \times \frac{5}{4} \right) = 37950$$

$$\Rightarrow x = \frac{37950 \times 10 \times 20 \times 4}{11 \times 23 \times 5}$$
$$\Rightarrow x = \frac{30360000}{1265} = 24000$$

$\therefore$  Production cost of a washing machine = Rs. 24000

Q20

**Answer :**

Mr. Mehta purchased a video at the cost of Rs. 20000.

Mr. Mehta purchased a television at the cost of Rs. 30000.

Total cost = Rs. (20000 + 30000) = Rs. 50000

He lost 5% on the video.

$$\begin{aligned} SP &= \frac{(100 - \text{Loss \%})}{100} \times CP \\ &= \frac{100 - 5}{100} \times 20000 \\ &= \frac{95}{100} \times 20000 \\ &= \text{Rs. } 19000 \end{aligned}$$

He gained 8% on the television.

$$\begin{aligned}
 \text{SP} &= \frac{(100 + \text{Gain \%})}{100} \times \text{CP} \\
 &= \frac{100 + 8}{100} \times 30000 \\
 &= \frac{108}{100} \times 30000 \\
 &= \text{Rs. } 32400
 \end{aligned}$$

$$\text{Total SP} = \text{Rs. } (190000 + 32400) = \text{Rs. } 51400$$

$$\text{Total CP} = \text{Rs. } 50000$$

$$\text{Total Gain} = \text{SP} - \text{CP} = \text{Rs. } (51400 - 50000) = \text{Rs. } 1400$$

$$\begin{aligned}
 \text{Gain \%} &= \left( \frac{\text{Gain}}{\text{CP}} \times 100 \right) \% \\
 &= \left( \frac{1400}{50000} \times 100 \right) \% \\
 &= 2.8\%
 \end{aligned}$$

Q21

**Answer :**

Let the CP of 1 orange be Rs.  $x$ .

$\therefore$  CP of 36 oranges = Rs.  $36x$

Let SP of orange be Rs.  $y$ .

$\therefore$  SP of 36 oranges = Rs.  $36y$

$$\text{Loss} = \text{SP of 4 oranges} = 4y \quad (\text{given})$$

We know:

$$\text{Loss} = \text{CP} - \text{SP}$$

$$\begin{aligned}
\Rightarrow 4y &= 36x - 36y \\
\Rightarrow 4y + 36y &= 36x \\
\Rightarrow 40y &= 36x \\
\Rightarrow 10y &= 9x \\
\Rightarrow y &= \frac{9}{10}x
\end{aligned}$$

$$\text{Loss \%} = \left( \frac{\text{Loss}}{\text{CP}} \times 100 \right) \%$$

$$= \left( \frac{4y}{36x} \times 100 \right) \%$$

$$\begin{aligned}
&= \left( \frac{4 \times 9x}{36x \times 10} \times 100 \right) \% \\
&= 10\%
\end{aligned}$$

$$\text{Loss \%} = 10\%$$

Q22

**Answer :**

Let the CP of one pencil be Rs.  $x$ .

Therefore, the CP of 96 pencils will be Rs.  $96x$ .

Let SP of one pencil be Rs.  $y$ .

$\therefore$  SP of 96 pencils = Rs.  $96y$

Gain = SP of one dozen pencil = Rs.  $12y$  (given)

$$\text{Gain} = \text{SP} - \text{CP}$$

$$\Rightarrow 12y = 96y - 96x \Rightarrow 96x = 96y - 12y \Rightarrow 96x = 84y \Rightarrow x = \frac{84y}{96}$$

$$\text{Gain \%} = \frac{\text{Gain}}{\text{CP}} \times 100 \% = \frac{12y}{96x} \times 100 \% = \frac{12y \times 96}{96 \times \frac{84y}{96}} \times 100 \% = 14.28\%$$

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