



#### Exercise 11A

$$\begin{aligned}\frac{6}{5}x - \frac{23}{20}x &= 108 \\ \Rightarrow \frac{24x - 23x}{20} &= 108 \\ \Rightarrow \frac{x}{20} &= 108 \\ \Rightarrow x &= 2160\end{aligned}$$

Hence, the cost price of the tricycle is Rs. 2160

Q15

**Answer :**

Let CP of a television be Rs  $x$ .

$$\text{SP at 8\% loss} = \frac{(100 - 8)}{100} \times x = \text{Rs. } \frac{92}{100}x$$

$$\text{SP at 6\% gain} = \left( \frac{100 + 6}{100} \right) \times x = \text{Rs. } \frac{106}{100}x$$

$$\frac{106}{100}x - \frac{92}{100}x = 3360$$

$$\Rightarrow \frac{14}{100}x = 3360$$

$$\Rightarrow x = \frac{336000}{14} = 24000$$

$\therefore$  CP = Rs. 24000

Sandeep bought it at the cost of Rs. 24000.

Q16

**Answer :**

SP of each cycle = Rs. 2376

He gains 10% in one cycle.

$$\begin{aligned} \text{CP} &= \left\{ \frac{100}{(100 + \text{Gain \%})} \times \text{SP} \right\} \\ &= \left\{ \frac{100}{(100 + 10)} \times 2376 \right\} \\ &= \frac{100}{110} \times 2376 \\ &= \text{Rs. 2160} \end{aligned}$$

He loses 10% in the second cycle.

$$\begin{aligned} \text{CP} &= \frac{100}{(100 - \text{Loss \%})} \times \text{SP} \\ &= \frac{100}{(100 - 10)} \times 2376 \\ &= \frac{100}{90} \times 2376 \\ &= \frac{23760}{9} \\ &= \text{Rs. 2640} \end{aligned}$$

Total CP = Rs. ( 2160 + 2640 ) = Rs. 4800

Total SP = Rs. ( 2376 + 2376 ) = Rs. 4752

Loss = CP - SP = Rs. ( 4800 - 4752 ) = Rs. 48

$$\begin{aligned} \text{Loss \%} &= \left( \frac{\text{Loss}}{\text{CP}} \times 100 \right) \% \\ &= \left( \frac{48}{4800} \times 100 \right) \% \\ &= 1\% \end{aligned}$$

Q17

**Answer :**

Let the CP of the exhaust fan be Rs.  $x$ .

$$\text{Gain} = \text{Rs. } \frac{x}{6}$$

$$\text{SP} = \text{Rs. } \left( x + \frac{x}{6} \right)$$

$$\text{SP} = \text{Rs. } 7350$$

$$\therefore x + \frac{x}{6} = 7350$$

$$\Rightarrow \frac{7}{6}x = 7350$$

$$\Rightarrow x = \frac{7350 \times 6}{7} = \frac{44100}{7} = 6300$$

$$\text{CP of the fan} = \text{Rs. } 6300$$

Q18

**Answer :**

Mohit sold a watch to Karim at Rs.  $x$ .

Mohit sold it at a gain of 10%.

SP of the watch = 110% of  $x$

$$= \left( x + \frac{110}{100}x \right) = \text{Rs. } \frac{11}{10}x$$

Karim sold it to Rahim at a gain of 4%.

$$\text{SP of the watch} = 104\% \text{ of } \frac{11}{10}x = \left( \frac{104}{100} \times \frac{11}{10}x \right) = \text{Rs. } \left( \frac{26}{25} \times \frac{11}{10}x \right)$$

But, Rahim pays Rs. 14300.

$$\therefore \frac{26}{25} \times \frac{11}{10}x = 14300$$

$$\Rightarrow x = \frac{14300 \times 25 \times 10}{26 \times 11} = \frac{3575000}{286} = 12500$$

Mohit purchased it at Rs. 25000.

Q19

**Answer :**

Let the production cost of a washing machine be Rs.  $x$ .

Profit of the manufacturer = 10%

SP of the manufacturer = 110% of  $x$

$$= \left( x + \frac{110}{100} \right) = \frac{110}{100}x = \text{Rs. } \frac{11}{10}$$

Profit of the wholesale dealer = 15%

SP of the wholesale dealer = 115% of Rs.  $\frac{11}{10}x$

$$= \text{Rs. } \left( \frac{11}{10}x \times \frac{115}{100} \right) = \text{Rs. } \left( \frac{11}{10}x \times \frac{23}{20} \right)$$

Profit of the retailer = 25%

SP of the retailer = 125% of Rs.  $\left( \frac{11}{10}x \times \frac{23}{20} \right)$

$$= \text{Rs. } \left( \frac{11}{10}x \times \frac{23}{20} \times \frac{125}{100} \right) = \text{Rs. } \left( \frac{11}{10}x \times \frac{23}{20} \times \frac{5}{4} \right)$$

\*\*\*\*\* END \*\*\*\*\*