$\frac{6}{5}x - \frac{23}{20}x = 108$

$\Rightarrow \frac{24x - 23x}{20} = 108$

$\Rightarrow \frac{x}{20} = 108$

$\Rightarrow x = 2160$

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

Q15

Answer :

Let CP of a television be Rs x.

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

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

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

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

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

$\therefore$ 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.

$$CP = \left\{ \frac{100}{(100 + G \text{ ain } \%)} \times SP \right\}$$

$$= \left\{ \frac{100}{(100 + 10)} \times 2376 \right\}$$

$$= \frac{100}{110} \times 2376$$

$$= \text{Rs. } 2160$$

He looses 10% in the second cycle.

$$CP = \frac{100}{(100 - L \text{ oss } \%)} \times SP$$

$$= \frac{100}{(100 - 10)} \times 2376$$

$$= \frac{100}{90} \times 2376$$

$$= \frac{23760}{9}$$

$$= \text{Rs. } 2640$$

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

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

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

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

$$= \left(\frac{48}{4800} \times 100 \right)\%$$

$$= 1\%$$

Q17

Answer :

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

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

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

SP = Rs. 7350

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

CP of the fan = 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 = $110\% \; of \; x$

$$= \left(x + \frac{110}{100} \right) = Rs. \; \frac{11}{20}x$$

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

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

But, Rahim pays Rs. 14300.

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

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

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 $\frac{11}{10}x$

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

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 *********