Hence, the selling price to obtain the desired gain must be Rs 350.

Q29.

Answer :

Let the original price be x.

SP = Rs 3120

Now, SP = CP – loss

$\Rightarrow 3120 = x - \frac{\frac{4}{100}}{x}$

$\Rightarrow 3120 = x - \frac{x}{25}$

$\Rightarrow 3120 = \frac{24x}{25}$

$\Rightarrow \frac{3120 \times 25}{24} = x$

$\Rightarrow x = 3250$

So, the cost price is Rs 3250.

If it is sold for Rs 3445, then its a gain because SP > CP.

Now, gain = SP – CP
= Rs (3445 – 3250)
= Rs 195

$$\therefore \textit{Gain percentage} = \left(\frac{\textit{gain}}{CP} \times 100\right)\%$$
$$= \left(\frac{195}{3250} \times 100\right)\%$$
$$= 6\%$$

Q30.

Answer :

SP of one saree = Rs 2185
Gain percentage = 15%

$$\textbf{CP of one saree} = \left\{\frac{100}{100+\text{gain \%}} \times \textbf{SP}\right\}$$
$$= \textbf{Rs}\left\{\frac{100}{100+15} \times 2185\right\}$$
$$= \textbf{Rs}\left\{\frac{100}{115} \times 2185\right\}$$
$$= \textbf{Rs}\,1900$$

SP of the other saree = Rs 2185
Loss percentage = 5%

$$\textbf{CP of the other aree} = \left\{\frac{100}{100-\textit{loss\%}} \times SP\right\}$$
$$= \left\{\frac{100}{100-5} \times 2185\right\}$$
$$= \left\{\frac{100}{95} \times 2185\right\}$$
$$= \textbf{Rs } 2300$$

Total SP of the two sarees = Rs ($\mathbf{2185 \times 2}$)= Rs 4370
Total CP of the two sarees = Rs (1900 + 2300) = Rs 4200
Since SP >CP, there is a gain in the whole transaction.
Now, gain = Rs (4370 – 4200) = Rs 170

$$\therefore \textbf{Gain percentage} = \left\{\frac{\textbf{gain}}{\textbf{total CP}} \times 100\right\}\%$$
$$= \left\{\frac{170}{4200} \times 100\right\}\%$$
$$= 4\,\frac{200}{4200}\,\%$$
$$= 4\,\frac{1}{21}\,\%$$

Hence, Luxmi gains $4\,\frac{1}{21}\,\%$ in the whole transaction.

Q31.

Answer :

SP of one fan = Rs 990

Gain percentage = 10%

$$\text{CP of one fan} = \left\{\frac{100}{100+\text{gain \%}} \times \text{SP}\right\}$$

$$= \left\{\frac{100}{100+10} \times 990\right\}$$

$$= \left\{\frac{100}{110} \times 990\right\}$$

$$= \text{Rs. } 900$$

SP of the other fan =Rs 900

Loss percentage = 10%

$$\text{Its CP} = \left\{\frac{100}{100-\text{loss \%}} \times \text{SP}\right\}$$

$$= \left\{\frac{100}{100-10} \times 990\right\}$$

$$= \left\{\frac{100}{90} \times 990\right\}$$

$$= \text{Rs } 1100$$

Total CP of the two fans = Rs (900 + 1100) = Rs 2000

Total SP of the two fans = Rs (990 + 990) = Rs 1980

Since CP >SP, there is a loss in the whole transaction.

Now, loss = Rs (2000 − 1980) = Rs 20

$$\therefore \textit{Loss percentage} = \left\{\frac{\textit{loss}}{\textit{total CP}} \times 100\right\}\%$$

$$= \left\{\frac{20}{2000} \times 100\right\}\%$$

$$= 1\%$$

Hence, the shopkeeper incurs a loss of 1% in the whole transaction.

********** END **********