



Exercise 10D

Q12.

Answer :

(a) 20%

Let Rs x be the CP of each article.

SP of an article = Rs $\frac{6}{5}x$

Now, gain = (SP – CP)

$$= \text{Rs} \left(\frac{6}{5}x - x \right)$$

$$= \text{Rs} \frac{x}{5}$$

$$\therefore \text{Gain percentage} = \left(\frac{\text{gain}}{\text{CP}} \times 100 \right) \%$$

$$= \left(\frac{\frac{x}{5}}{x} \times 100 \right) \%$$

$$= \left(\left(\frac{x}{5} \times \frac{1}{x} \right) \times 100 \right) \%$$

$$= 20\%$$

Q13.

Answer :

(b) Rs. 1200

SP = Rs 720

Loss percentage = 25%

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

$$= \text{Rs} \left\{ \frac{100}{(100 - 25)} \times \text{SP} \right\}$$

$$= \text{Rs} \left(\frac{100}{85} \times 720 \right)$$

$$= \text{Rs} 960$$

$$\therefore \text{Desired SP} = \left\{ \frac{(100 + \text{gain \%})}{100} \times \text{CP} \right\}$$

$$= \text{Rs.} \left\{ \frac{(100 + 25)}{100} \times 960 \right\}$$

$$= \text{Rs.} \left(\frac{125}{100} \times 960 \right)$$

$$= \text{Rs.} 1200$$

Q14.

Answer :

(a) 5%

$$\text{CP} = \text{Rs. } 20x$$

$$\text{SP} = \text{Rs. } 21x$$

$$\text{Gain} = \text{Rs. } (21 - 20)$$

$$\begin{aligned}
 &= \text{Rs. } x \\
 \therefore \text{Gain percentage} &= \left(\frac{\text{gain}}{\text{CP}} \times 100 \right) \% \\
 &= \left(\frac{x}{20x} \times 100 \right) \% \\
 &= 5\%
 \end{aligned}$$

Q15.

Answer :

(a) 1.5% gain

SP of the first chair = Rs 500

Gain percentage = 20%

$$\begin{aligned}
 \therefore \text{CP of the first chair} &= \left\{ \frac{100}{(100 + \text{gain } \%)} \times \text{SP} \right\} \\
 &= \text{Rs. } \left\{ \frac{100}{(100 + 20)} \times 500 \right\} \\
 &= \text{Rs. } \left(\frac{100}{120} \times 500 \right) \\
 &= \text{Rs. } 416.67
 \end{aligned}$$

SP of the second chair = Rs. 500

Loss percentage = 12%

$$\begin{aligned}
 \therefore \text{CP of the second chair} &= \left\{ \frac{100}{(100 - \text{loss } \%)} \times \text{SP} \right\} \\
 &= \text{Rs. } \left\{ \frac{100}{(100 - 12)} \times 500 \right\} \\
 &= \text{Rs. } \left(\frac{100}{88} \times 500 \right) \\
 &= \text{Rs. } 568.18
 \end{aligned}$$

$$\begin{aligned}
 \text{Total CP of the two chairs} &= \text{Rs. } (416.67 + 568.18) \\
 &= \text{Rs. } 984.85
 \end{aligned}$$

$$\begin{aligned}
 \text{Total SP of the two chairs} &= \text{Rs. } (500 \times 2) \\
 &= \text{Rs. } 1000
 \end{aligned}$$

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

Now, gain = Rs. (1000 - 984.85)

$$= \text{Rs. } 15.15$$

$$\begin{aligned}
 \therefore \text{Gain percentage} &= \left(\frac{\text{gain}}{\text{CP}} \times 100 \right) \% \\
 &= \left(\frac{15.15}{984.85} \times 100 \right) \% \\
 &= 1.5\%
 \end{aligned}$$

Q16.

Answer :

(b) Rs 530

Let the CP be Rs x .

Then, we have :

$$625 - x = x - 435$$

$$\Rightarrow x + x = 625 + 435$$

$$\Rightarrow 2x = 1060$$

$$\therefore x = \text{Rs } 530$$

Q17.

Answer :

(c) Rs 198

$$\text{CP} = \text{Rs } 150$$

$$\text{Total CP} = \text{Rs } (150 + 10\% \text{ of } 150)$$

$$= \text{Rs } \left(150 + \left(\frac{10}{100} \times 150 \right) \right)$$

$$= \text{Rs } (150 + 15)$$

$$= \text{Rs } 165$$

$$\therefore \text{Desired SP} = \left\{ \frac{(100 + \text{gain \%})}{100} \times \text{total CP} \right\}$$

$$= \text{Rs. } \left\{ \frac{(100 + 20)}{100} \times 165 \right\}$$

$$= \text{Rs. } \left(\frac{120}{100} \times 165 \right)$$

$$= \text{Rs. } 198$$

Q18.

Answer :

(a) Rs. 50

Let the CP be Rs x . Then, we have :

$$(105\% \text{ of } x) - (95\% \text{ of } x) = 5$$

$$\Rightarrow \left(\frac{105}{100} \times x \right) - \left(\frac{95}{100} \times x \right) = 5$$

$$\Rightarrow \left(\frac{105x}{100} - \frac{95x}{100} \right) = 5$$

$$\Rightarrow \frac{(105x - 95x)}{100} = 5$$

$$\Rightarrow \frac{10x}{100} = 5$$

$$\Rightarrow \frac{x}{10} = 5$$

$$\Rightarrow x = 50$$

$$\therefore \text{CP} = \text{Rs } 50$$

Q19.

Answer :

(h) 8%

Let the CP be Rs 100.
Then, marked price = Rs 120
Discount = 10% of MP

$$\begin{aligned} &= (10\% \text{ of Rs } 120) \\ &= \text{Rs. } \left(120 \times \frac{10}{100}\right) \\ &= \text{Rs. } 12 \end{aligned}$$

$$\begin{aligned} \text{Now, SP} &= (\text{MP}) - (\text{discount}) \\ &= \text{Rs } (120 - 12) \\ &= \text{Rs } 108 \end{aligned}$$

$$\begin{aligned} \text{Gain percentage} &= (108 - 100)\% \\ &= 8\% \end{aligned}$$

Q20.

Answer :

(c) 1% loss

Let the CP be Rs 100.
Then, marked price = Rs 110
Discount = 10% of MP

$$\begin{aligned} &= (10\% \text{ of Rs. } 110) \\ &= \text{Rs. } \left(110 \times \frac{10}{100}\right) \\ &= \text{Rs. } 11 \end{aligned}$$

$$\begin{aligned} \text{Now, SP} &= (\text{MP}) - (\text{discount}) \\ &= \text{Rs } (110 - 11) \\ &= \text{Rs } 99 \end{aligned}$$

$$\therefore \text{Loss percentage} = (100 - 99)\% = 1\%$$

Q21.

Answer :

(c) Rs.750

Let the basic price be x .

VAT = 10% of Rs x

$$= \text{Rs} \left(x \times \frac{10}{100} \right)$$

$$= \text{Rs} \frac{x}{10}$$

$$\begin{aligned} \therefore \text{Price including VAT} &= \text{Rs} \left(x + \frac{x}{10} \right) \\ &= \text{Rs.} \frac{11x}{10} \end{aligned}$$

$$\text{Now, } \frac{11x}{10} = 825$$

$$\Rightarrow x = \left(825 \times \frac{10}{11} \right)$$

$$\Rightarrow x = 750$$

\therefore The basic price of the watch is Rs 750.

***** END *****