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)

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

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

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

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

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

$= 20\%$

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%

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

$= \text{Rs. } x$

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

$= \left(\frac{x}{20x} \times 100\right)\%$

$= 5\%$

Q15.

Answer :

(a) 1.5% gain

SP of the first chair $= \text{Rs } 500$

Gain percentage $= 20\%$

$\therefore$ CP of the first chair $= \left\{\frac{100}{(100+\text{gain }\%)} \times \text{SP}\right\}$

$= \text{Rs.} \left\{\frac{100}{(100+20)} \times 500\right\}$

$= \text{Rs.} \left(\frac{100}{120} \times 500\right)$

$= \text{Rs. } 416.67$

SP of the second chair $= \text{Rs. } 500$

Loss percentage $= 12\%$

$\therefore$ CP of the second chair $= \left\{\frac{100}{(100-\text{loss }\%)} \times \text{SP}\right\}$

$= \text{Rs.} \left\{\frac{100}{(100-12)} \times 500\right\}$

$= \text{Rs.} \left(\frac{100}{88} \times 500\right)$

$= \text{Rs. } 568.18$

Total CP of the two chairs $= \text{Rs.} (416.67 + 568.18)$

$= Rs. 984.85$

Total SP of the two chairs $= Rs. (500 \times 2)$

$= Rs. 1000$

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

Now, gain $= Rs. (1000 - 984.85)$

$= Rs. 15.15$

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

$= \left(\frac{15.15}{984.85} \times 100\right)\%$

$= 1.5\%$

Q16.

Answer :

(b) Rs 530

Let the CP be Rs x.

Then, we have :

$625 - x = x - 435$

$\Rightarrow x + x = 625 + 435$

$\Rightarrow 2x = 1060$
$\therefore x =$ 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 :

(b) 8%

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

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

Now, SP = (MP) − (discount)
= Rs (120 − 12)
= Rs 108
Gain percentage = (108 − 100)%
= 8%

Q20.

Answer :

(c) 1% loss

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

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

Now, SP = (*MP*) − (*discount*)
= *Rs* (110 − 11)
= *Rs* 99
∴ *Loss percentage* = (100 − 99)% = 1%

Q21.

Answer :

(c) Rs.750

Let the basic price be x.

$$\text{VAT} = 10\% \text{ of Rs } x$$
$$= \text{Rs } \left(x \times \frac{10}{100}\right)$$
$$= \text{Rs } \frac{x}{10}$$
$$\therefore \text{ Price including VAT} = \text{Rs } \left(x + \frac{x}{10}\right)$$
$$= Rs. \frac{11x}{10}$$

$$\text{Now, } \frac{11x}{10} = 825$$
$$\Rightarrow x = \left(825 \times \frac{10}{11}\right)$$
$$\Rightarrow x = 750$$

∴ The basic price of the watch is Rs 750.

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