Q1.

Answer :

(c) $33\frac{1}{3}\%$

SP = Rs 100

Gain = Rs $(100 - 75)$

$\quad\quad$ = Rs 25

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

$\quad\quad\quad\quad$ = $\left(\frac{25}{75} \times 100\right)\%$

$\quad\quad\quad\quad$ = $33\frac{1}{3}\%$

Q2.

Answer :

(b) $12\frac{1}{2}\%$

CP = Rs 120

SP = Rs 105

Loss = Rs $(120 - 105)$

$\quad\quad$ = Rs 15

$\therefore$ Loss percentage = $\left(\frac{\text{loss}}{\text{CP}} \times 100\right)$

$\quad\quad\quad\quad$ = $\left(\frac{15}{120} \times 100\right)$

$\quad\quad\quad\quad$ = $12\frac{1}{2}\%$

Q3.

Answer :

(b) 25%

$CP = SP - Gain$

$= Rs\ (100 - 20)$

$= Rs\ 80$

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

$= \left(\dfrac{20}{80} \times 100\right)\%$

$= 25\%$

Q4.

Answer :

$\left(d\right)$ Rs 72

SP = Rs 48

Loss = 20%

Now, $\text{CP} = \dfrac{100}{100 - \text{loss}\,\%} \times \text{SP}$

$= \text{Rs}\left(\dfrac{100}{(100 - \text{loss}\,\%)} \times \text{SP}\right)$

$= \text{Rs}\left(\dfrac{100}{(100 - 20)} \times 48\right)$

$= \text{Rs}\left(\dfrac{100}{80} \times 48\right)$

$= \text{Rs } 60$

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

$= \left\{\dfrac{(100 + 20)}{100} \times 60\right\}$

$= \text{Rs}\left(\dfrac{12}{10} \times 60\right)$

$= \text{Rs } 72$

Q5.

Answer :

(c) 120%

Let the SP and CP of the article be Rs x and y, respectively.

Gain percentage = 10%

$\Rightarrow 10 = \frac{x-y}{y} \times 100$

$\Rightarrow y = \frac{10x}{11}$

According to the question, we have:

SP = Rs $2x$

$\therefore$ Gain percentage $= \frac{\text{gain}}{\text{CP}} \times 100$

$$= \frac{2x - \frac{10x}{11}}{\frac{10x}{11}} \times 100$$

$$= \frac{12}{10} \times 100$$

$$= 120\%$$

Q6.

Answer:

(d) 125%

Cost price of a banana = Rs $\frac{2}{3}$

Selling price of a banana = Rs $\frac{3}{2}$

Now, profit $=$ Rs $\left(\frac{3}{2} - \frac{2}{3}\right) =$ Rs $\frac{9-4}{6} =$ Rs $\frac{5}{6}$

$\therefore$ Gain percentage $= \frac{\text{gain}}{\text{CP}} \times 100$

$= \frac{\left(\frac{5}{6}\right)}{\left(\frac{2}{3}\right)} \times 100$

$= \frac{5}{6} \times \frac{3}{2} \times 100$

$= \frac{5}{4} \times 100$

$= 5 \times 25$

$= 125\%$

Q7.

Answer:

(c) 20%

Let Rs x be the SP of each pen.

SP of 10 pens = CP of 12 pens = Rs $12x$

CP of 10 pens = Rs $10x$

Now, gain = Rs $(12x - 10x)$

$= $ Rs $2x$

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

$= \left(\frac{2x}{10x} \times 100\right)\%$

$$= 20\%$$

Q8.

Answer:

(b) 25%

Let the SP of 100 pens be Rs x.

SP of 1 pen = Rs $\frac{x}{100}$

Profit = Rs $\frac{20x}{100}$

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

Now, CP = $x - \frac{x}{5}$

$\qquad = \frac{4x}{5}$

$\therefore$ Gain percentage = $\frac{\frac{x}{5}}{\frac{4x}{5}} \times 100$

$$= 25\%$$

Q9.

Answer:

(d) 150%

L.C.M of 5 and 2 = $(5 \times 1 \times 2) = 10$

Let 10 be the number of toffees bought.

CP of 5 toffees = Rs 1

CP of 1 toffee = Rs $\left(\frac{1}{5}\right)$

$\therefore$ CP of 10 toffees = Rs $\left(\frac{1}{5} \times 10\right)$

$\qquad = $ Rs 2

SP of 2 toffees = Rs 1

SP of 1 toffee = Rs $\left(\frac{1}{2}\right)$

$\therefore$ SP of 10 toffees = Rs $\left(\frac{1}{2} \times 10\right)$

$\qquad = Rs.\,5$

Gain = Rs $(5 - 2)$

$\qquad = $ Rs 3

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

$$= \left(\tfrac{3}{2} \times 100 \right)\%$$
$$= 150\%$$

Q10.

Answer :

(d) 25%

L.C.M of 5 and 6 = (5 × 1 × 6) = 30
Let 30 be the number of oranges bought.
CP of 5 oranges = Rs 10
CP of 1 oranges = Rs $\left(\tfrac{10}{5} \right)$
$$= \text{Rs } 2$$
∴ CP of 30 oranges = Rs (2 × 30)
$$= \text{Rs } 60$$
SP of 6 oranges = Rs 15
SP of 1 oranges = Rs $\left(\tfrac{15}{6} \right)$
∴ SP of 30 oranges = Rs $\left(\tfrac{15}{6} \times 30 \right)$

$$= \text{Rs } 75$$

Now, gain = Rs (75 − 60)
$$= \text{Rs } 15$$
∴ Gain percentage = $\left(\tfrac{\text{gain}}{\text{CP}} \times 100 \right)\%$
$$= \left(\tfrac{15}{60} \times 100 \right)\%$$
$$= 25\%$$

Q11.

Answer :

(a) 4%

SP of the radio = Rs 950
Loss = 5%
$$\text{CP} = \left\{ \tfrac{100}{(100 - \text{loss})} \times \text{SP} \right\}$$
$$= \text{Rs } \left\{ \tfrac{100}{(100 - 5)} \times 950 \right\}$$
$$= \text{Rs } \left(\tfrac{100}{} \times 950 \right)$$

$= \text{Rs} \left(\frac{}{95} \times 950 \right)$

$= \text{Rs } 1000$

Now, gain $= \text{Rs } (1040 - 1000)$

$= \text{Rs } 40$

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

$= \left(\frac{40}{1000} \times 100 \right)\%$

$= 4\%$

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