Exercise 10D

Q1.

Answer :

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

$\text{SP} = \text{Rs } 100$

$\text{Gain} = \text{Rs } (100 - 75)$

$= \text{Rs } 25$

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

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

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

Q2.

Answer :

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

$\text{CP} = \text{Rs } 120$

$\text{SP} = \text{Rs } 105$

$\text{Loss} = \text{Rs } (120 - 105)$

$= \text{Rs } 15$

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

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

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

Q3.

Answer :

$\left(\mathbf{b}\right)\ 25\%$

$\mathbf{CP} = \mathbf{SP} - \mathbf{Gain}$

$= \mathbf{Rs}\ (100 - 20)$

$= \mathbf{Rs}\ 80$

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

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

$= 25\%$

Q4.

Answer :

$\left(\mathrm{d}\right)\ \mathrm{Rs}\ 72$

$\mathrm{SP} = \mathrm{Rs}\ 48$

$\mathrm{Loss} = 20\%$

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

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

$= \mathrm{Rs}\ \left(\frac{100}{(100 - 20)} \times 48\right)$

$= \mathrm{Rs}\ \left(\frac{100}{80} \times 48\right)$

$= \mathrm{Rs}\ 60$

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

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

$= \mathrm{Rs}\ \left(\frac{12}{10} \times 60\right)$

$= \mathrm{Rs}\ 72$

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%

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

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

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

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

$$= \frac{\left(\frac{5}{6}\right)}{\left(\frac{2}{3}\right)} \times 100$$
$$= \frac{5}{6} \times \frac{3}{2} \times 100$$
$$= \frac{5}{4} \times 100$$
$$= 5 \times 25$$
$$= 125\%$$

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 $\frac{20x}{100}$

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

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

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

$\therefore$ 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 $\left(\frac{1}{5} \times 10\right)$

$=$ Rs 2

SP of 2 toffees $=$ Rs 1

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

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

$= Rs. 5$

Gain $=$ Rs $(5 - 2)$

$=$ Rs 3

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

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

Q10.

Answer :

(d) 25%

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

$= \text{Rs } 75$

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

Q11.

Answer :

(a) 4%

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

$= \text{Rs}\left(\frac{100}{95} \times 950\right)$

$= \text{Rs } 1000$

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

$= \text{Rs } 40$

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

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

$= 4\%$

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