Profit, Loss, Discount, Value Added Tax (VAT) Ex 13.1 Q15

Answer :

$\text{S. } P \text{ of } 90 \text{ ball pens } = \text{ Rs. } 160$

$\text{Loss} = 20\%$

$\text{Therefore, C.P } = \text{SP}\left(\frac{100}{100-\text{Loss \%}}\right)$

$\text{CP} = \frac{100}{100-20} \times 160$

$= \frac{16000}{80}$

$= \text{Rs. } 200$

Now,

$\text{S. P of } 90 \text{ ball pens} = \text{Rs. } 96$

$\text{Profit} = 20\%$

$\text{C. P } = \text{SP}\left(\frac{100}{100+\text{Profit \%}}\right)$

$\text{CP} = \frac{100}{100+20} \times 96$

$= \frac{9600}{120}$

$= \text{Rs. } 80$

$\text{Rs. } 200 \text{ is the C. P of } 90 \text{ ball pens.}$

$\text{Therefore, Rs. } 80 \text{ is the C. P of } = \frac{90 \times 80}{200} = 36 \text{ ball pens}$

$\text{Thus, } 36 \text{ ball pens should be sold at Rs. } 96 \text{ to earn a profit of } 20\%.$

Profit, Loss, Discount, Value Added Tax (VAT) Ex 13.1 Q16

Answer :

$\text{Let the C. P of the article be Rs. } x.$

$\text{Original S. P } = x + \frac{25}{100} x$

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

$\text{If he purchased it at } 20\% \text{ less,}$

$C.\text{P} = x - \frac{20}{100} x$

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

$\text{He sold the article at Rs } 36.75 \text{ less.}$

$\text{So, the selling price } = Rs. \ \frac{5x}{4} - 36.75$

$\text{Given that he would have gained } 30\% \text{ selling at that price.}$

$\text{Therefore, gain } \% = \frac{\text{S.P} - \text{C.P}}{\text{C.P}} \times 100$

$\text{S. P} - \text{C. P} = \frac{5x}{4} - 36.75 - \frac{4x}{5}$

$= \frac{5x}{4} - \frac{4x}{5} - 36.75$

$= \frac{25x - 16x}{20} - 36.75$

$= \frac{9x}{20} - 36.75$

$\text{So, gain } \% = \frac{\text{S.P} - \text{C.P}}{\text{C.P}} \times 100$

$30 = \frac{\frac{9x}{20} - 36.75}{\frac{4x}{5}} \times 100$

$$= \left(\frac{9x}{20} - 36.75\right) \times \frac{5}{4x} \times 100$$

$$= \frac{9x-735}{16x} \times 100$$

$$30 = \frac{9x-735}{16x} \times 100$$

$$\frac{225x-18375}{4x} = 30$$

$$225x - 18375 = 120x$$

$$105x = 18375$$

$$x = \frac{18375}{105}$$

$$= 175$$

So, *the* cost price *of the article is* Rs. 175.

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