Answer on Question #43145-Math-Other

A shopkeeper sells an article at 10% discount on the marked price which is 20% above the cost price. Find the profit he makes if he sells an article for Rs 10.80.

Solution

Selling price (S.P.) is $S.P. = Rs\ 10.80$.

Marked price is

$$M.P. = \frac{100 \cdot S.P.}{100 - \text{discount}} = \frac{100 \cdot S.P.}{100 - 10} = \frac{S.P.}{0.9}$$

The marked price is 20% above the cost price:

$$M.P. = C.P.\frac{100 + 20}{100} \rightarrow C.P. = \frac{M.P.}{1.2}$$

The profit is

$$\text{Profit} = S.P. - C.P. = S.P. - \frac{S.P.}{0.9 \cdot 1.2} = S.P.\left(1 - \frac{1}{0.9 \cdot 1.2}\right) = Rs\ 10.80\left(1 - \frac{1}{0.9 \cdot 1.2}\right) = Rs\ 0.80.$$

Answer: $Rs\ 0.80$.