Answer on Question #43143-Math-Other

A tradesman marks an article Rs 205 above the cost price. He allows a discount of 10% on the marked price. Find his profit %, if the cost price is x?

Solution

The cost price is

$$C.P. = Rs\ x.$$

The marked price is

$$M.P. = C.P. + \text{Rs } 205 = \text{Rs } (205 + \text{x}).$$

Selling price (S.P.) is

$$S.P. = \frac{(100 - \text{discount}) \cdot \text{M. P.}}{100} = \frac{(100 - 10) \cdot \text{M. P.}}{100} = \text{Rs } 0.9(205 + \text{x}).$$

$$\text{Profit } \% = \frac{\text{S. P.} - \text{C. P.}}{C.P.} 100 = \frac{\text{Rs } 0.9(205 + \text{x}) - Rs\ x}{Rs\ x} 100 = \left(\frac{18450}{x} - 10\right) \%.$$

Answer: $\left(\frac{\mathbf{18450}}{\boldsymbol{x}} - \mathbf{10}\right) \%$.