PROFIT AND LOSS

If *C* is the cost price of an article and *S* is the selling price, the *Profit* = *S* – *C*. If *S* is less than *C* then *Loss* = *C* – *S*.

A profit is made when *S* > *C* and a loss when *S* < *C*.

$$Percentage\ Profit = \frac{S - C}{C} \times 100$$

$$Percentage\ Loss = \frac{C - S}{C} \times 100$$

Example: A shopkeeper loses 4% by selling an article at N480. At what price should he have sold the article to make a profit of 4%.

Solving

Finding the Cost price:

$\frac{C-S}{C} \times 100 = 4$

$\frac{C-S}{C} = \frac{4}{100}$

$1 - \frac{S}{C} = \frac{4}{100}$

$-\frac{S}{C} = \frac{4}{100} - 1 = -\frac{96}{100}$

$\frac{S}{C} = \frac{96}{100}$

$C = \frac{S \times 100}{96} = \frac{480 \times 100}{96} = \frac{48000}{96} = 500$

Finding how much he would have sold it if to make 4% profit:

$4\%\ Loss = C - S = 500 - 480 = 20$

$4\%\ Profit = C + 4\% = 500 + 20 = \mathbf{520}$