

5.1 Profit And Loss

The **cost price** of an item is the price at which a merchant buys an item. The **selling price** is the price at which the merchant sells the item. When the selling price is greater than the cost price, the merchant makes a gain, which is commonly known as a **profit**. It is given by:

$$\text{Profit} = \text{Selling price} - \text{Cost price.}$$

When the selling price is less than the cost price, the merchant incurs a **loss**, which is given by:

$$\text{Loss} = \text{Cost price} - \text{Selling price.}$$

For example, if a calculator costing \$40 is sold for \$56,

$$\begin{aligned} \text{the profit} &= \$56 - \$40 \\ &= \$16; \end{aligned}$$

if a calendar costing \$7 is sold for \$4,

$$\begin{aligned} \text{the loss} &= \$7 - \$4 \\ &= \$3. \end{aligned}$$

To compare profits gained (or losses incurred) from buying and selling of different items, we usually express the profit (or loss) on an item as a percentage of the cost price of the item.

In the above example,

$$\begin{aligned} \text{the profit as a percentage of the cost price of the calculator} &= \frac{16}{40} \times 100\% \\ &= 40\%; \end{aligned}$$

$$\begin{aligned} \text{the loss as a percentage of the cost price of the calendar} &= \frac{3}{7} \times 100\% \\ &= 42.9\% \\ &\text{(correct to 3 sig. fig.).} \end{aligned}$$

Example 1 The cost price of a monitor is \$480. It is sold at a loss of 12.5% on the cost price. Find its selling price.

Solution $\text{Loss} = 12.5\% \times \480
 $= \$60$

$$\begin{aligned} \therefore \text{selling price of the monitor} &= \$480 - \$60 \\ &= \$420 \end{aligned}$$