Introduction to Ratio

☞ In our day-to-day life, we compare one quantity with another quantity of the same kind by using the method of subtraction and method of division.

Let us take a simple example.

The height of Julia is 1m 96cm and that of Meena is 1 m 92 cm. The difference in their height is: 196cm – 192cm = 4cm

Thus, we say Julia is 4 cm taller than Meena.

When we compare two quantities of the same kind by division, we can say that we have formed a ratio. We denote ratio using the symbol (:)

☞ Let us understand with some examples:

Examples: There are 30 oranges and 18 apples in a fruit basket.

(i) What is the ratio of the number of oranges to the number of apples?

(ii) What is the ratio of the number of apples to the number of fruits in the basket?

⇨ **Solution:** (i) Number of oranges = 30, Number of apples = 18

The ratio of the number of oranges to the number of apples

$= 30 : 18 = \frac{30}{18} = \frac{30 \div 6}{18 \div 6}$ [HCF of 30 and 18 is 6]

$= \frac{5}{3} = \mathbf{5 : 3}$

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☞ (ii) Number of apples = 18

Total number of fruits = 30 + 18 = 48

The ratio of the number of apples to the total number of fruits

$$= 18 : 48 = \frac{18 \div 6}{48 \div 6}$$

$$= \frac{3}{8} = \mathbf{3:8}$$