

1. In many, situations a more meaningful comparison between quantities is made by using division, by seeing how many times one quantity is to the other. This is called as ratio. For e.g. Isha's age is 10 years and her father's age is 40 years. We can say that Isha's father's weight and Isha's weight are in the ratio of 4 : 1
2. Ratio comparison: The two quantities must be in the same unit.
3. It is always expressed in its simplest form.
4. Two ratios are equivalent if the fractions corresponding to them are equivalent 3 : 2 is equivalent to 6 : 4.
5. When two ratios are equal they are said to be in proportion. Symbol is '::'.
6. If two ratios are in proportion then the product of mean is equal to the product of extreme. E.g. 3,10,15,50 are in proportion

$$\frac{3}{10} = \frac{15}{50}$$

$$3 : 10 : 15 : 50$$

3 & 50 are extremeness terms

10 & 15 are middle terms (mean terms)

$$3 \times 50 = 150 \text{ \& } 10 \times 15 = 150.$$

7. The order of terms in the proportion is important