

Ratio in the simplest or lowest form



If the ratio $a : b$ is such that the HCF of numerators a and denominator b is 1, then the ratio $a : b$ is called the ratio in its simplest form. A ratio should always be expressed in its simplest form.

Let us understand with following examples:



Example 1: Convert the ratio 28:42 in its simplest form:

Solution: HCF of 28 and 42 is 14.

$$28 : 42 = \frac{28}{42} = \frac{28 \div 14}{42 \div 14} = \frac{2}{3} = 2 : 3$$

Hence, 28:42 in its simplest form is 2 : 3.



Example 2: Express the ratio 480:384 in its simplest form.

Solution: HCF of 480 and 384 is 96.

$$480 : 384 = \frac{480}{384} = \frac{480 \div 96}{384 \div 96} = \frac{5}{4} = 5 : 4$$

Hence, 480:384 in its lowest form is 5 : 4.