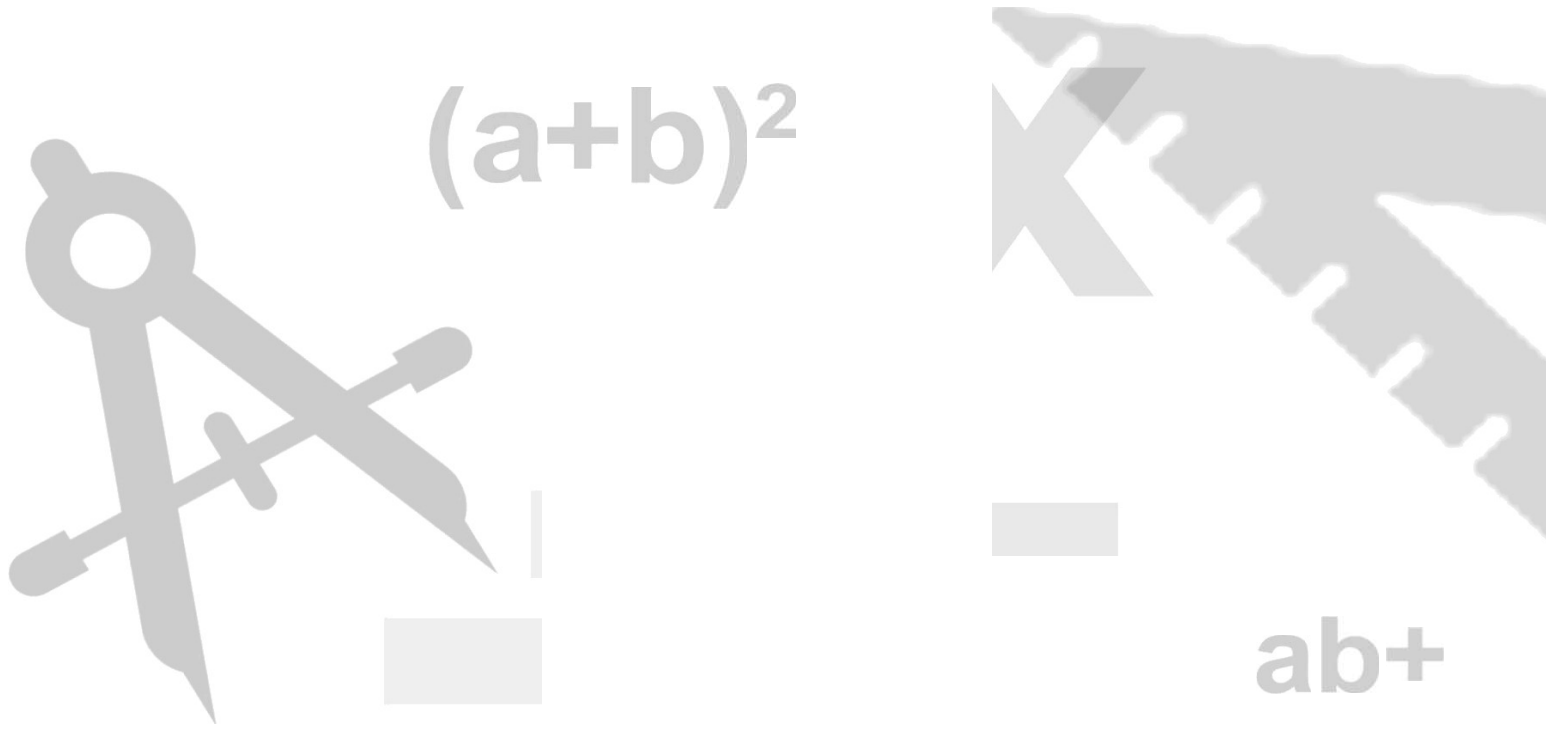
MATHS



Ratio and Proportion

1. Ratio is a method of comparing two quantities of same kind bydivision.
2. Symbol used to write ratio is ':' and is read as 'isto'.
   So, the ratio of two non-zero numbers a and b is the fraction $\frac{a}{b}$ and is denoted as a: b.
3. For comparison by ratio, the two quantities must be in the sameunit.
4. Ratio can be expressed as afraction.
5. Ratio is always expressed in its simplestform.
6. Ratio does not have any unit, it is only a numericalvalue.
7. A ratio (say, a: b) consists of two terms (a and b). The first term is called antecedent and secondterm is calledconsequent.
8. A ratio can be written in its simplest form by dividing the antecedent and consequent with theirHCF.
9. Antecedent and consequent of a ratio cannot be interchanged.
10. Two or more ratios are equivalent if their corresponding fractions areequivalent.
11. Equivalent ratios to a given ratio can be obtained by multiplying or dividing the numerator and denominator by the same non-zeronumber.
12. When two ratios are equal they are said to be in proportion. Symbol for proportion is :: and is readas 'asto'.
13. In the proportion a : b :: c : d, we call a, b, c and d as the first, second, third and fourth term respectively.
14. The two terms in the middle of proportion are called means and the first and last terms arecalled extremes.
15. If two ratios are equal or to be in proportion, the product of means should be equal to the productof extremes.

    That is, if a : b : : c : d then ad = bc
16. The method to find out the value of one unit/item which in turn is used to find the value ofrequired number of units/items is called unitarymethod.
17. To find out the value of many when the value of one is given, the operation used is multiplication(□).
18. Tofindoutvalueofonewhenthevalueofmanyisgiven,theoperationusedisdivision□□□