

### Basic Concepts:

1. If two figures A and B are congruent, they must have equal areas.  
Or, if A and B are congruent figure, then  $\text{ar (A)} = \text{ar (B)}$
2. If a planar region formed by a figure T is made up of two non – overlapping planar regions formed by figures P and Q, then  $\text{ar (T)} = \text{ar (P)} + \text{ar (Q)}$ .
3. Two figures are said to be on the same base and the same parallels, if they have a common base (side) and the vertices (or the vertex) opposite to the common base of each figure lie on a line parallel to the base.
4. Parallelograms on the same base and between the same parallels are equal in area.
5. Area of a parallelogram is the product of its any side and the corresponding altitude.
6. Parallelograms on the same base and having equal areas lie between the same parallels.
7. If a parallelogram and a triangle are on the same base and between the same parallels, then area of the triangle, is half the area of the parallelogram.
8. Two triangles on the same base and between the same parallels are equal in area.
9. Two triangles having the same base and equal areas lie between the same parallels.
10. Area of triangle is half the product of its base and the corresponding altitude (or height).
11. A median of a triangle divides it into two triangles of equal areas.