

Basic Concepts

1. Figures having the same shape and size are called congruent figures.
2. Two circles of the same radii are congruent.
3. Two squares of the same sides are congruent.
4. If two triangles ABC and DEF are congruent under the correspondence $A \rightarrow D$, $B \rightarrow E$ and $C \rightarrow F$, then symbolically it is expressed as $\Delta ABC \cong \Delta DEF$.
5. Two triangles are congruent, if two sides and the included angle of one triangle are equal to the two sides and the included angle of the other triangle. It is called SAS congruence rule.
6. Two triangles are congruent, if two angles and the included side of one triangle are equal to two angles and the included side of the other triangle. It is called ASA congruence rule.
7. Two triangles are congruent, if any two pairs of angles and one pair of corresponding sides are equal. It is called AAS congruence rule.
8. Angles opposite to equal sides of an isosceles triangle are equal.
9. The sides opposite to the equal angles of a triangle are equal.
10. Each angle of an equilateral triangle is 60° .
11. If three sides of one triangle are equal to the three sides of another triangle, then the two triangles are congruent. It is called SSS congruence rule.
12. If in two triangles, the hypotenuse and one side of one triangle are equal to the hypotenuse and one side of the other triangle, then the two triangles are congruent. It is called RHS congruence rule.
13. If two sides of a triangle are unequal, the angle opposite to the longer side is larger.
14. In any triangle, the side opposite to the larger angle is longer.
15. The sum of any two sides of a triangle is greater than the third side.