**IX**
**Mathematics**
**Chapter 7: Triangles**
**Chapter Notes**

## Top Definitions

**1.** Two figures are congruent, if they are of the same shape and of the same size.

**2.** Two figures are similar, if they are of the same shape but of different size.

**3.** SAS congruence rule: 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.

**4.** ASA congruence rule: Two triangles are congruent if two angles and the included side of one triangle are equal to two angles and the included side of other triangle.

**5.** AAS congruence rule: Two triangles are congruent if any two pairs of angles and one pair of corresponding sides are equal.

**6.** SSS congruent rule: If three sides of one triangle are equal to the three sides of another triangle, then the two triangles are congruent.

**7.** RHS congruence rule: If in two right 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.

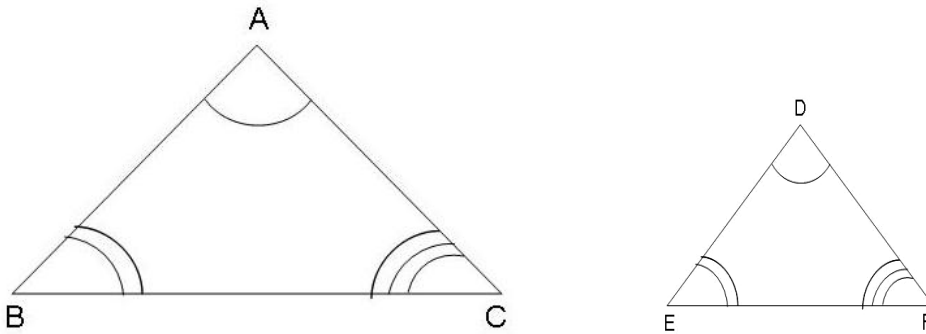**8.** A triangle in which two sides are equal is called an isosceles triangle.

## Top Concepts

**1.** If two triangles ABC and PQR are congruent under the corresponding A ↔ P, B ↔Q and C ↔ R, then symbolically, it is expressed as $\Delta$ ABC $\cong \Delta$ PQR.

**2.** Two circles of the same radii are congruent.

**3.** Two squares of the same sides are congruent.

**4.** Each angle of an equilateral triangle is of 60°.

**5.** In congruent triangles corresponding parts are equal and we write this as 'CPCT' for corresponding parts of congruent triangles.

**6.** SAS congruence rule holds but not ASS or SSA rule.

**7.** Angles opposite to equal sides of an isosceles triangle are equal.

8. The sides opposite to equal angles of a triangle are equal.

9. RHS stands for Right Angle – Hypotenuse – Side.

10. If two sides of a triangle are unequal, then the greater angle is opposite to the greater side.

11. If two angles of a triangle are unequal, the greater side is opposite to the greater angle.

12. The sum of any two sides of a triangle is greater than the third side.

13. The difference between any two sides of a triangle is less than the third side.

14. If the sum of two adjacent angles is 180°, then the non – common arms of the angles form a line.

## Top Diagrams

1. Δ ABC ~ Δ DEF



2. Δ ABD ≅ Δ DEF