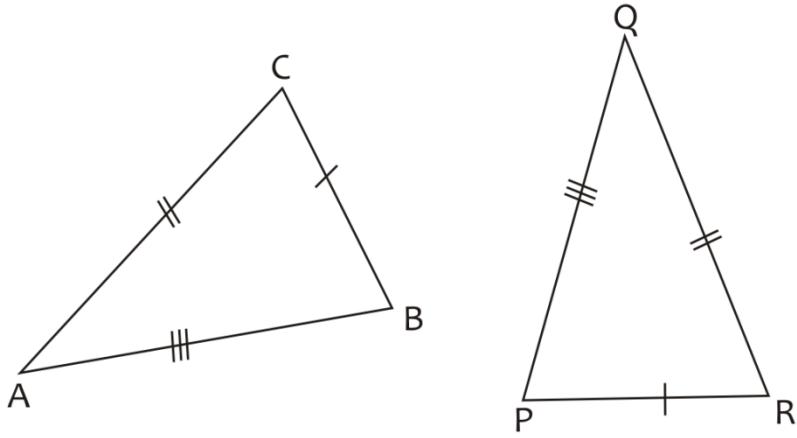
CONGRUENT AND SIMILAR TRIANGLES

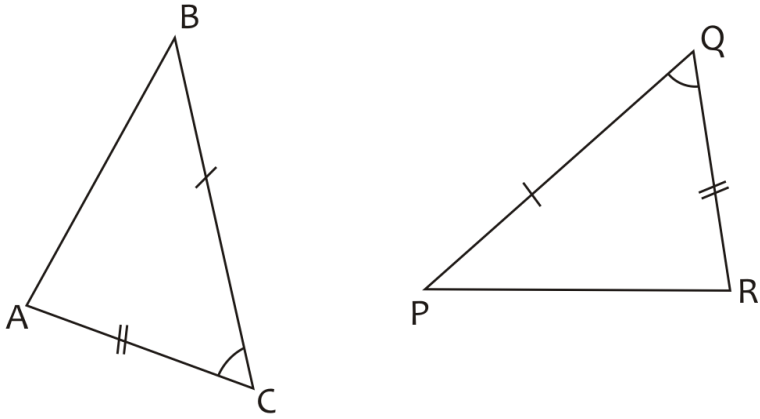
When two or more triangles are equal in all aspects, they are said to be congruent. Their angles are equal, their sides are equal and if one is lifted up, it can be placed exactly on the other one. Their areas are equal.

Some conditions that must be met before two triangles are said to be congruent are:

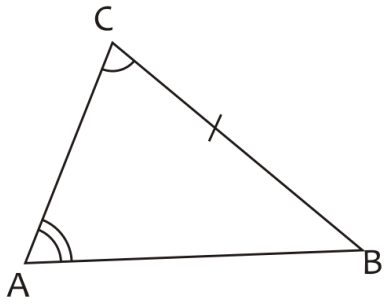
i) The sides of both triangles must be equal (SSS), or

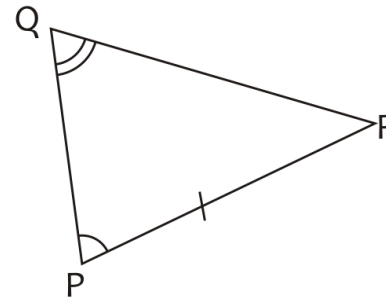


ii) The 2 sides of one triangle XYZ are equal to 2 sides of the other triangle PQR, and the angle enclosed by those two pairs of equal sides are equal, then the triangles are congruent (SSA, SAS, or ASS).

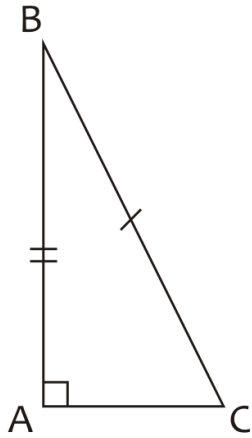


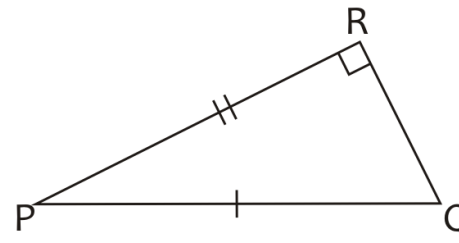
iii) The two angles of one triangle ABC equal two angles of another triangle PQR and anyone side of triangle ABC equals the corresponding side of PQR. (AAS, ASA, or SAA).





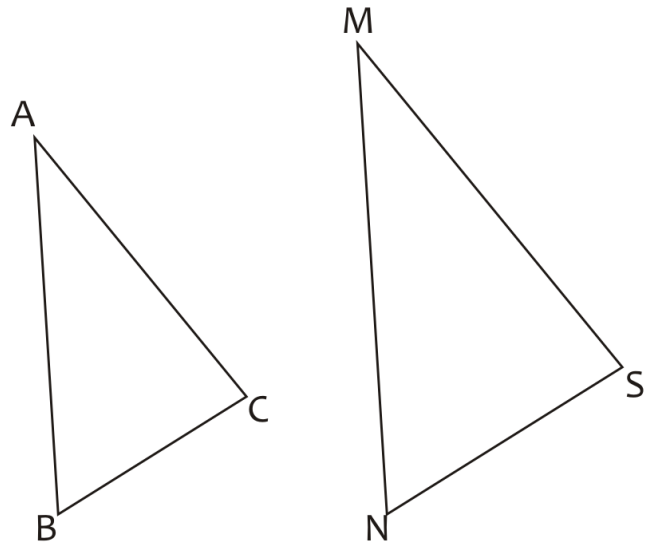
iv) Two right-angled triangles have their hypotenuses equal and also one other side of the other triangle, the triangles ABC and XYZ are congruent.





Similar Triangles

When the angles of one triangle are equal to the angles of another triangle (AAA), the two triangles are said to be similar, i.e. these shapes are alike or equivalent. This does not mean that their sides are equal two, or that they are congruent, rather the ratios of their corresponding sides are equal.



$$\frac{AB}{MN} = \frac{AC}{MS} = \frac{CB}{SN}$$