

TRIANGLES

- Two figures are congruent if they are of the same shape and of the same size.
- Two circles of same radii are congruent.
- Two squares of same side are congruent.

- If two triangles ABC and PQR are congruent under the correspondence $A \leftrightarrow P, B \leftrightarrow Q, C \leftrightarrow R$, then symbolically it is expressed as $\triangle ABC \cong \triangle PQR$.

- **SAS congruence**
If two sides and the included angle of one triangle are equal to two sides and the included angle of other triangle then the two triangles are congruent.

- **ASA congruence**
If two angles and the included side of one triangle are equal to two angles and the included side of other triangle, then the two triangles are congruent.

- **SSS congruence**
If three sides of one triangle are equal to three sides of other triangle, then the two triangles are congruent.

- Angles opposite to equal sides are equal.
- Sides opposite to equal angles are equal.
- Each angle of an equilateral triangle is 60° .
- In a triangle, angle opposite to longer side is greater.
- In a triangle, side opposite to the greater angle is longer.
- Sum of any two sides of a triangle is greater than the third side.
- Exterior angle is greater than either of the interior opposite angles.

- **RHS congruence**
If in two right triangles hypotenuse and one side of one triangle are equal to the hypotenuse and one side of other triangle then the two triangles are congruent

- **AAS congruence**
If two angles and one side of one triangle are equal to two angles and the corresponding side of other triangle, then the two triangles are congruent.