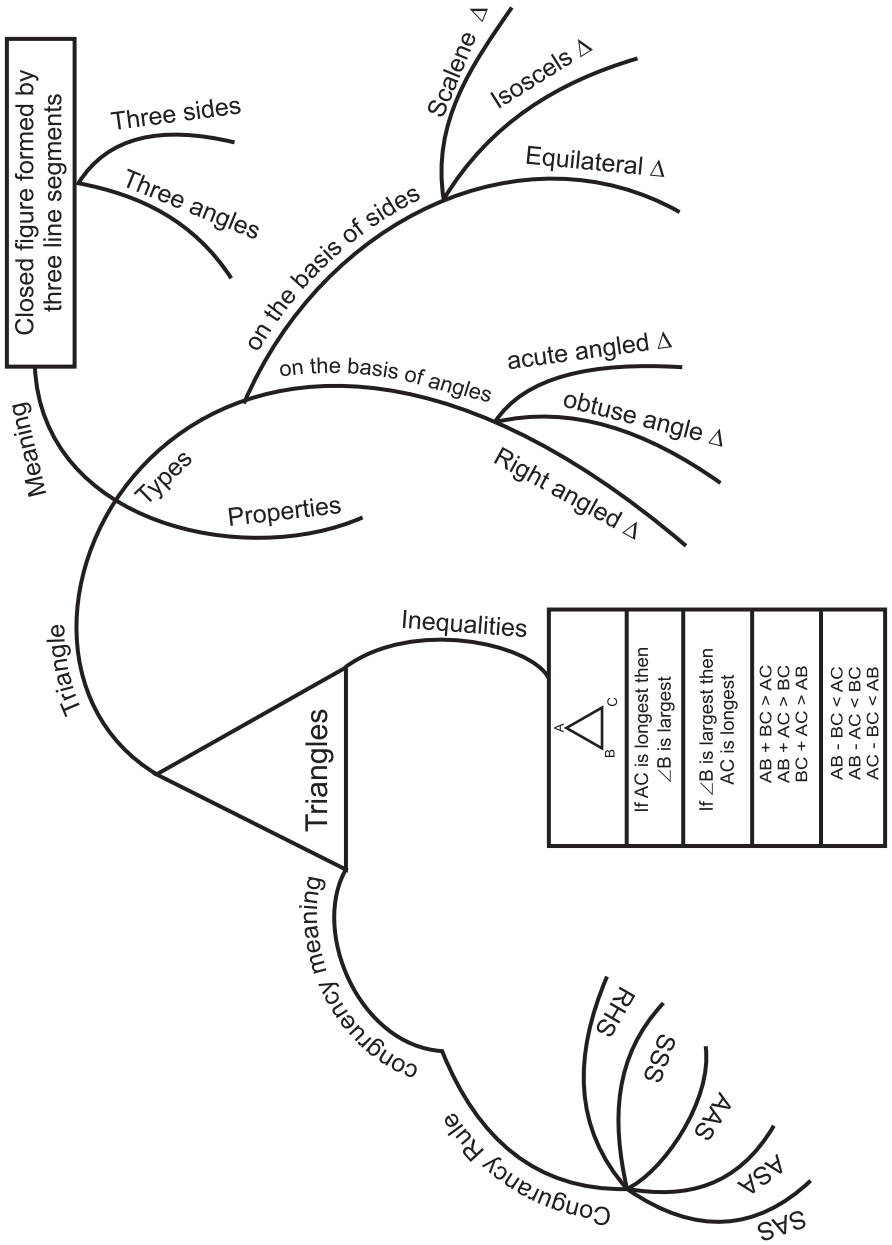
CHAPTER-7

TRIANGLES

MIND MAP



CHAPTER-7

TRIANGLES

KEY POINTS

- Two figures having the same shape and size are called congruent figures.
- Two plane figures are congruent, if each one when superimposed on the other, covers the other exactly.
- Two line segments are congruent, if they are of equal lengths.
- Two angles of equal measures are congruent.
- Two circles of the same radii are congruent.
- Two squares of the same sides are congruent.
- Two rectangles are congruent, if they have the same length and breadth.
- If two triangles ABC and DEF are congruent under the correspondence $A \longleftrightarrow D$, $B \longleftrightarrow E$ and $C \longleftrightarrow F$, then symbolically, it is expressed as $\Delta ABC \cong \Delta DEF$.
- There are four congruent conditions for triangles.

  (a) **Side-Angle-Side (SAS) congruent rule :** Two triangles are congruent, if two sides and the included angle of the one triangle are respectively equal to the two sides and the included angle of the other triangle.

  (b) **Angle-Side-Angle (ASA) congruence rule :** Two triangles are congruent, if two angles and the included side of the one triangle are respectively equal to the two angles and the included side of the other triangle.

  (c) **Side-Side-Side (SSS) congruence rule :** Two triangles are congruent, if the three sides of one triangle are respectively equal to the three sides of the other triangle.

  (d) **Right angle-Hypotenuse-Side (RHS) congruence rule :** Two right triangles are congruent, if the hypotenuse and one side of one triangle are respectively equal to the hypotenuse and one side of another triangle.