Triangles

A closed figure bounded by three line segments is called a triangle.

How to form a triangle ABC?

Step 1: Draw three points on a piece of paper.

Name them A, B and C.

Step 2: Then, draw the line segment AB.

Step 3: Next, draw the line segment AC and BC.

Step 4: Now, a triangle is drawn as shown in the figure. The triangle is named as triangle ABC. It is common to use the symbol ' Δ ' in place of the word 'triangle' i.e., Δ ABC.

⇒ Parts of Triangle

There are three sides and three angles in a triangle.

- (i) The three line segments \overline{AB} , \overline{BC} and \overline{CA} are the sides of ΔABC .
- (ii) The three angles $\angle ABC$, $\angle BAC$ and $\angle ACB$ are the angles of $\triangle ABA$.
- (iii) A,B and C are the vertices of \triangle ABC.
- (iv) Sum of the angles of a triangle is 180° i.e., $\angle A + \angle B + \angle C = 180^{\circ}$

Interior and Exterior of a Triangle

- (i) The part of the plan which consists of all points such as P is called the interior of the triangle.
- (ii) The part of the plane which consist of all points such as R forms the triangle itself.
- (iii) The interior of the Δ ABC together with the triangle is called the triangular region ABC.
- (iv) The part of the plane which consist of all points such as Q is called the exterior of the triangle. (i) A

(i) P_{\bullet} Interior B P_{\bullet} C(ii) A Triangular region (iv) A C Q Exterior C C



Example: In the $\triangle PQR$ name:

- (i) The side opposite to $\angle R$.
- (ii) The angle opposite to QR.
- (iii) The vertex opposite to vertex PR.
- (iv) The side opposite to vertex P.

Solution: (i) The side opposite to $\angle R$ is PQ.

- (ii) The angle opposite to QR is $\angle P$.
- (iii) The vertex opposite to PR is Q.
- (iv) The side opposite to vertex P is QR.





