

## About Triangles

A triangle is a closed figure made up of three line segments.

## Types of triangles based on sides

**Equilateral triangle:** A triangle having all the three sides of equal length is an equilateral triangle.

Since all sides are equal, all angles are equal too.

**Isosceles triangle:** A triangle having two sides of equal length is an Isosceles triangle.

The two angles opposite to the equal sides are equal.

**Scalene triangle:** A triangle having three sides of different lengths is called a scalene triangle.

## Types of triangles based on angles

**Acute-angled triangle:** A triangle whose all angles are acute is called an acute-angled triangle or Acute triangle.

**Obtuse-angled triangle:** A triangle whose one angle is obtuse is an obtuse-angled triangle or Obtuse triangle.

**Right-angled triangle:** A triangle whose one angle is a right-angle is a Right-angled triangle or Right triangle.

## Basic properties of triangles

- The sum of the angles in a triangle is  $180^\circ$ . This is called the angle-sum property.
- The sum of the lengths of any two sides of a triangle is greater than the length of the third side. Similarly, the difference between the lengths of any two sides of a triangle is less than the length of the third side.
- The side opposite to the largest angle is the longest side of the triangle and the side opposite to the smallest angle is the shortest side of the triangle.
- An exterior angle of a triangle is equal to the sum of its interior opposite angles. This is called the exterior angle property of a triangle.

