# **Classification of Triangles**

A triangle is a three-sided polygon with three vertices and three edges.
 Classification of Triangles on the basis of its sides:

 Scalene triangle
 Isosceles triangle
 Equilateral triangle

Scalene triangle: A scalene triangle is a triangle with varied lengths on all three sides. In scalene triangle's angles are also different in measure. Here, the sides PQ, PR and QR are unequal sides of a triangle PQR.

Isosceles triangle: An isosceles triangle is a triangle with two sides of equal length.

Here, the sides XY and XZ are equal.

Equilateral triangle: An equilateral triangle has the same length of each of its three sides.

Here, the sides PQ, QR and PR all are of equal length.

#### Let us understand with some examples:

**Example:** In a triangle ABC, AB = 5cm, BC = 7cm and CA = 4 cm, which type of triangle is it?

**Solution:** Here AB, BC, CA are of unequal length so it is a scalene triangle.

**Example:** In a triangle PQR, PQ = 6cm, QR = 6cm, RP = 6cm, which type of triangle is it?

**Solution:** Here PQ, QR and PR are of equal length so it is an equilateral triangle.

Classification of Triangles on the basis of its angles:

1. Acute angle triangle 2. Right angle triangle

3. Obtuse angle triangle

### Acute angle Triangle:

An acute triangle, also called an acute triangle, has all angles less than 90 degrees. The sum of the angles still add up to 180 degrees.

## Right angled triangle:

A right-angled triangle, also called a right-angled triangle, has one angle exactly 90 degrees. The other two angles are acute and their sum is 90°.

### Obtuse triangle:

An obtuse triangle, also called an obtuse triangle, has one angle greater than 90 degrees. The sum of the other two angles is less than 90 degrees.





