

Triangle

Triangle: A three sided closed figure is known as triangle.

Types of triangle:

a) On the basis of sides:

i) Scalene triangle: If all three sides of a triangles are unequal, it is called scalene triangle. In scalene triangle, all angles are also unequal.

ii) Isosceles Triangle: If two sides of a triangle are equal, it is called isosceles triangle.

In isosceles triangle, the angles opposite to the equal sides are also equal.

iii) Equilateral triangle: If all sides of a triangles are equal then it is called an equilateral triangle.

In equilateral triangle all angle are equal i.e. 60° .

b) On the basis of angle:

i) Acute angled triangle: A triangle in which all three angles are acute, i.e. every angle measure more than 0° but less than 90° is called an acute angled triangle.

ii) Right angled triangle: A triangle in which one angle is right angle i.e. 90 is called a right angled triangle.

iii) Obtuse angled triangle: A triangle in which one angle is obtuse i.e. more than 90° but less than 180° is called an obtuse angled triangle.

Median of a triangle: The line segment joining a vertex of a triangle to the mid point of the opposite side is called a median.

The point where all the three medians meet is known as centroid. Centroid divides a median in the ratio of 2:1.

Altitude of a triangle: An altitude of a triangle is a line segment through a vertex and perpendicular to a line containing the base that is the opposite side of the vertex.

Angle sum property of a triangle: The sum of measures of the three angles of a triangle is equal to 180° .

Exterior angle property: the measure of an exterior angle of a triangle is equal to the sum of the measures of the two interior opposite angles.

Inequalities in a triangle:

Third side is always less than the sum of other two sides.

Third side is always greater than the difference of the other two sides.

In a triangle, side opposite to the largest angle is longest and angle opposite to the longest side is largest.