

Jender Heart High School, Sec.-33B Chd.

Class : VII

Teacher: Deep

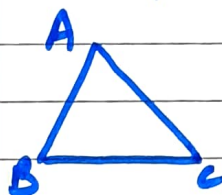
Subject: Mathematics

Topic: Chapter-18: Properties of triangles

In this assignment we will cover the basic concept of the chapter:

- Classification of triangles

↗ Sides
↘ angles
- Important properties of triangles.



Triangle is a closed figure bounded by three line segments. It has 3 sides (AB, BC, CA), 3 vertices (A, B and C) and 3 angles ($\angle A$, $\angle B$ and $\angle C$).

- Classification of triangle according to its sides:

Scalene triangle
(All the sides are of different length)

Equilateral triangle
(All the three sides are equal)

Isosceles triangle
(Only two sides are equal)

- Classification of triangle according to its angles

Acute angled triangle
(All the three angles are acute i.e. less than 90°)

Right angled triangle
(A one angle is right angle i.e. 90°)

Obtuse angled triangle
(One of the three angles is more than 90°)

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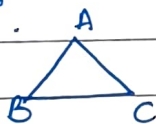
Teacher: Ms. Deep

Points to be remember:

- In a right angled triangle, we have one angle 90° and other two acute angle.
- We cannot have two obtuse or two right angle in a given triangle.
- All the sides of an equilateral Δ are equal, thus all the angles are also equal and measures 60° .

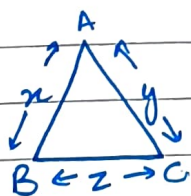
Properties of a triangle:

1. Angle sum property: The sum of all the three angles of a triangle is always 180° .



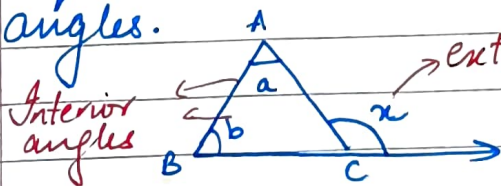
$$\angle A + \angle B + \angle C = 180^\circ$$

2. Side property: The sum of any two sides of a triangle is always greater than the third side of the triangle.



$$\begin{aligned}x + y &> z \\y + z &> x \\x + z &> y\end{aligned}$$

3. Exterior angle property: The exterior angle of a triangle is always equal to the sum of two opposite interior angles.



$$x = a + b$$

★ Exercise questions we will do in next assignment.