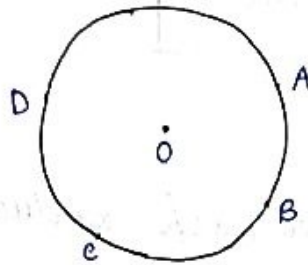


CH-2) Shapes and Angles.

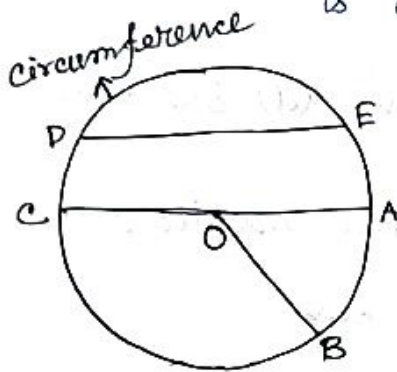
TOPIC: CIRCLE

■ Definition :- A circle is the set of points in a plane that are equidistant from a given point.



■ Different parts of a circle :-

* Centre :- The fixed point inside the circle is called the centre of the circle.
'O' is the centre of the circle.



* Circumference :- The length of the curved line is called the circumference of the circle.

* Radius :- The distance from the centre of the circle to any point on the circumference is called the radius of the circle.

'OA' and 'OB' are the radii of the circle.

* Diameter :- The longest distance from one end of a circle to the other end through centre is called the diameter of the circle.

'CA' is the diameter of the circle.

* Chord :- The line joining any two points on the circle is called the chord.

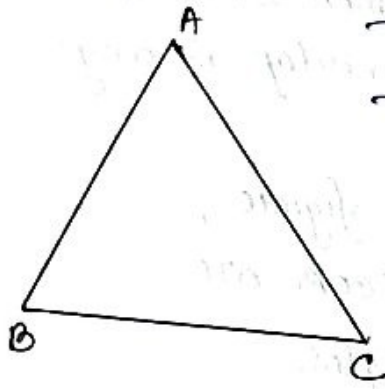
'DE' is the chord of the circle.

Diameter is the longest chord of the circle.

TRIANGLE

Definition:-

A triangle is a three-sided polygon that consists of three edges and three vertices.



In the figure $\triangle ABC$ is a triangle.

It is denoted by ' Δ ' sign.

The sides are AB, BC, CA .

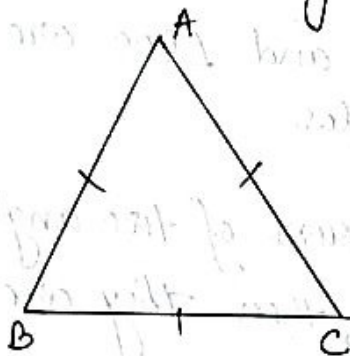
The vertices are A, B, C .

The three angles are $\angle ABC, \angle BCA, \angle CAB$.

Types of triangle:-

According to the length of sides

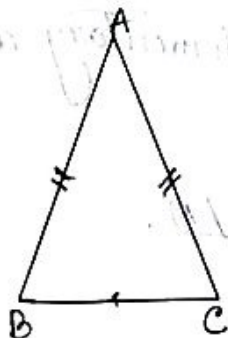
(i) Equilateral triangle:- The triangle whose all three sides are equal, is called equilateral triangle.



In this triangle, three angles are also equal.

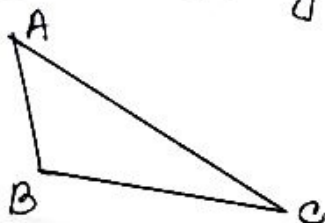
$$AB = BC = CA$$

(ii) Isosceles triangle:- The triangle whose two sides are equal, is called isosceles triangle.



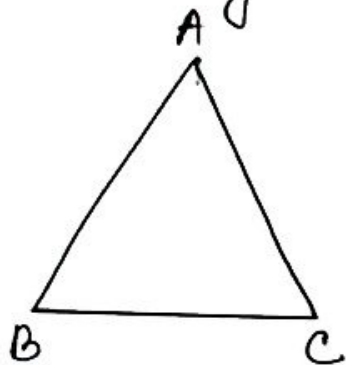
$$AB = AC$$

(iii) Scalene triangle:- The triangle whose all sides are ~~unequal~~ of different length, is called scalene triangle.

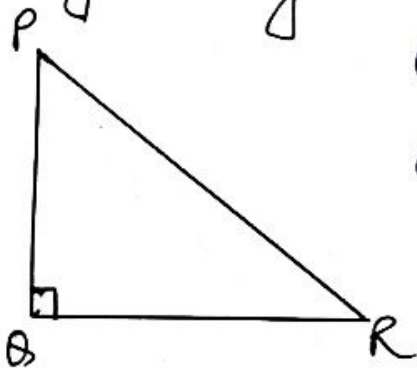


According to the angles :-

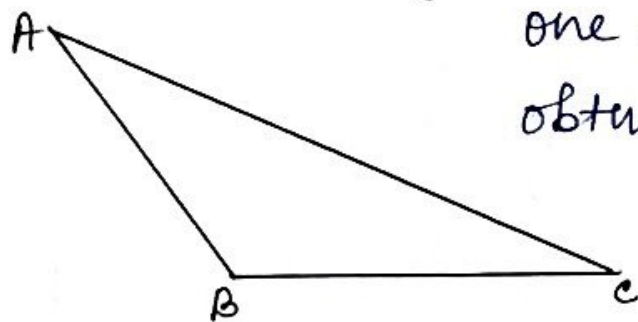
- (i) Acute angled triangle :- A triangle in which all angles are acute, is called acute angled triangle.



- (ii) Right angled triangle :- A triangle in which one angle is right angle, is called right angled triangle.



- (iii) Obtuse angled triangle :- A triangle in which one angle is obtuse, is called obtuse angled triangle.



■ Angle sum property of triangle :-

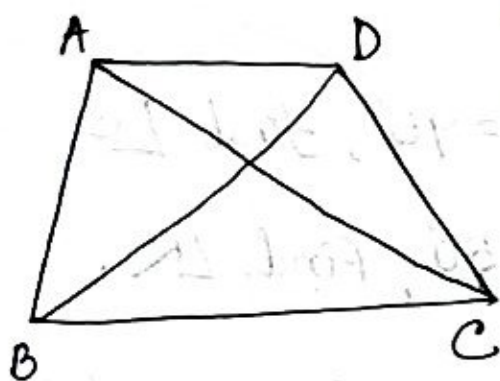
The sum of three angles of a triangle is 180° .

So, in a $\triangle ABC$, $\angle A + \angle B + \angle C = 180^\circ$.

QUADRILATERAL

■ Definition :-

A closed figure made of four line segments is called a quadrilateral.



In the figure, ABCD is a quadrilateral.

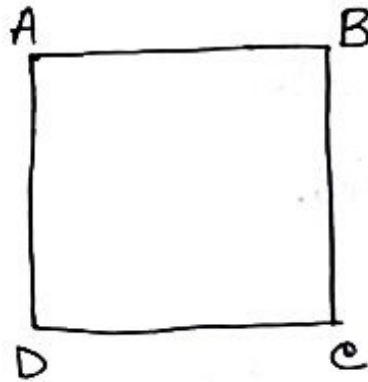
It has four sides, AB, BC, CD and DA.

It has four vertices, A, B, C and D.

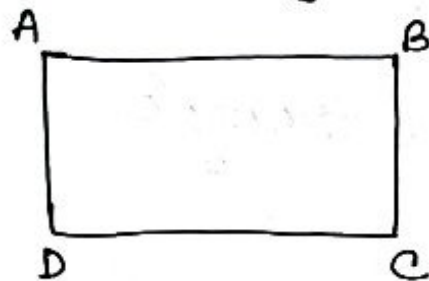
It has four angles, $\angle A$, $\angle B$, $\angle C$ and $\angle D$.

AC and BD are diagonals.

■ Square :- A square is a quadrilateral whose length of four sides are equal and all angles are also equal.



■ Rectangle :- A rectangle is a quadrilateral whose length of opposite sides are equal.



■ Angle sum property of quadrilateral :-

The sum of the four angles of the quadrilateral is 360° .

In a quadrilateral ABCD, $\angle A + \angle B + \angle C + \angle D = 360^\circ$.

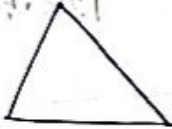
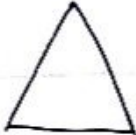
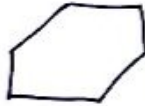
CH-2 > Shapes and Angles

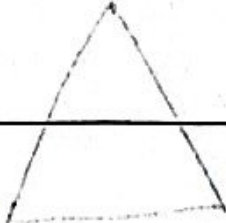
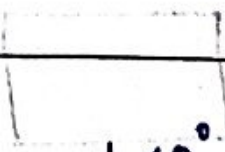
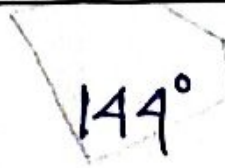
TOPIC: POLYGON

Definition :- The shape with more than two sides, is called polygon.

Different types of polygon :-

- * The polygon with three sides is called triangle.
- * The polygon with four sides is called quadrilateral.
- * The polygon with five sides is called pentagon.
- * The polygon with six sides is called hexagon.
- * The polygon with seven sides is called heptagon.
- * The polygon with eight sides is called octagon.
- * The polygon with nine sides is called nonagon.
- * The polygon with ten sides is called decagon.

Polygon	Shape	Regular Shape	Sum of all interior angle	Measure of each interior angle in case of regular figure.
Triangle			180°	60°
Quadrilateral			360°	90°
Pentagon			540°	108°
Hexagon			720°	120°

Polygon	Sum of all interior angle	Measure of each interior angle in case of regular shape.
Heptagon	900° 	128.57° 
Octagon	1080° 	135° 
Nonagon	1260° 	140° 
Decagon	1440° 	144° 