Geometry

Curves: Anything that is not straight is called a curve.

Types of Curves:

i)Simple Curves: The curve which does not intersect themselves.

ii)Open Curves: The curves whose initial and final points are different.

iii)Closed Curves: The curves whose initial and final points are the same.

Interior Points: The points which lie inside the curve is called interior points.

Exterior Points: The points which lie outside the curve is called exterior points.

Polygons: Any closed figure formed using only one line segment.

Diagonals: The lines joining the opposite vertex of any side is called diagonals.

Triangle: Three-sided closed figure is called a triangle.

Altitudes of a triangle: Height of the triangle is known as altitudes of a triangle, it lies inside are outside the triangle. A triangle has three altitudes.

Medians of a triangle: The line coming from the vertex and divides the opposite side in equal part is called medians of the triangle. A triangle has three medians.

Classification of Triangle

1) On the basis of sides:

1. **Equilateral Triangle:** The triangle having all sides equal is called equilateral triangle.
2. **Isosceles Triangle:** The triangle having two equal sides are called isosceles triangle.
3. **Scalene Triangle:** If none of the sides of a triangle is equal is called a scalene triangle.

2) On the basis of angle:

1. **Acute angled triangle:** If all three angles of a triangle are less then 90 is called acute-angled triangle.
2. **Right-angled Triangle:** If one angle of the triangle is equal to 90 is called Right angled triangle.
3. **Obtuse-angled Triangle:** If one angle of the triangle is greater than 90 is called obtuse-angled triangle.

Angle Sum Property of Triangle: Sum of all angles of a triangle is equal to 180.

Quadrilaterals: Any four-sided closed figure is called as quadrilaterals.

Types of Quadrilaterals

1. **Rectangle:** A quadrilateral in which opposite sides are equal and parallel are called Rectangle.
2. **Square:** A quadrilateral in which all sides equal and opposite sides are parallel are called Square.
3. **Parallelogram:** A quadrilateral with the opposite sides are equal and parallel. The diagonal of a parallelogram bisect each other.
4. **Rhombus:** The quadrilateral in which all sides are equal and opposite sides are parallel. The diagonals of a rhombus bisect each other at right angles.
5. **Trapezium:** A quadrilateral in which one pair of opposites sides are equal.
6. **Kite:** A quadrilateral with two pairs of equal adjacent sides but unequal opposites sides.

Circle: Circle is defined as the set of points equidistant from a fixed point.

Radius: A line segment drawn from the center to the boundary of the circle is called radius.

Diameter: A line passing through the center and touches the two points on the boundary of the circle is called diameter.

Chord: A line touches the two points on the boundary of the circle. Diameter is the largest chord of the circle.

Circumference: The boundary of the circle is called Circumference.

Concentric Circle: Two circles with the same center but different radii are called the concentric circles.