



## ST. LAWRENCE HIGH SCHOOL



A JESUIT CHRISTIAN MINORITY INSTITUTION

- Subject :Mathematics      Study Material - 5      Class 5
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- Chapter:Geometry

- Polygon and Its Types

Polygon is part of our everyday life. We use things which are in any form or shape, most of them are polygons. In this chapter, we will explore elaborately about polygon and its types.

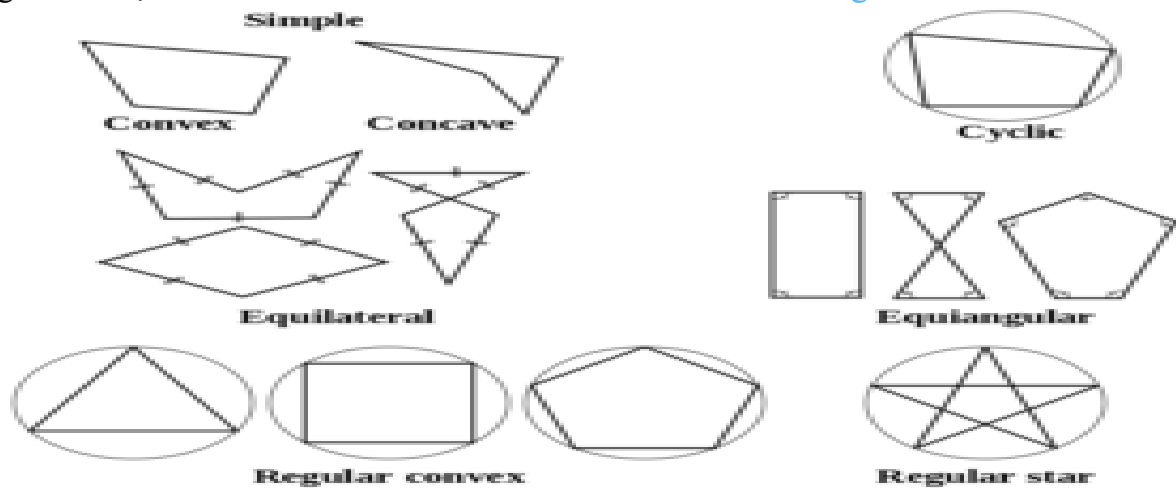
## Polygons

A polygon is a two-dimensional shape formed with more than three [straight lines](#). For example, a closed figure formed with three straight lines is termed as [triangle](#) whereas a shape formed with four straight lines is known as a [quadrilateral](#). It is formed with only straight lines; if any [curved](#) line is used to form a closed figure than it will not be termed as a polygon.

Polygon is basically any closed shape which is formed with three or more straight lines. There is no [limit](#) in how many sides will be there in a polygon, it can possess infinite sides, they can have 10 sides or more sides.

# Types of Polygon

A polygon can be classified on the basis of a number of sides and measure of angles. First, we will discuss on the basis of the [measure of angles](#)–



## Classified by Measuring the Angles

- **Regular Polygon:** Polygon in which all the sides and all the interior angles of the polygon are equal is called regular polygon.
- **Irregular Polygon:** The [polygon](#) in which is not regular a polygon is known as Irregular Polygon. Irregular polygons do not have equal sides and measure of angles.
- **Convex Polygon:** The polygon whose measure of an interior angle is less than  $180^\circ$  is termed as a convex polygon. The vertices of a convex polygon are always outwards.
- **Concave Polygons:** In concave polygons, at least one angle measures more than  $180^\circ$ . Those polygons which are not convex are concave polygons.
- **Quadrilateral Polygons:** Quadrilateral polygons are the polygons which are four-sided or with four angles i.e. quadrangle. Every polygon which forms four angles is known as quadrilateral polygons.
- **Pentagon Polygons:** The polygon which consists of five sides is termed as pentagon polygon.

# Classified by Measuring the Sides

Name of a polygon is termed according to the number of sides they have. Though polygon can have an infinite number of sides and can be termed according to the number of sides suppose a polygon consist. Suppose a polygon consist of 3 sides then it is known as a triangle, but if a polygon consists of 333 sides it will be known as 333-gon.

- **Triangle:** The three-sided polygon is known as the triangle.
- **Quadrilateral:** Any figure which is a closed four-sided figure is known as a quadrilateral.
- **Pentagon:** The closed figure which is formed by five straight lines is known as a pentagon.
- **Hexagon:** The six-sided polygon is known as a hexagon.
- **Heptagon:** The polygon with seven sides is termed as a heptagon.
- **Octagon:** As the name says, the Eight-sided polygon is known as Octagon.
- **Nonagon:** The polygon which possesses nine straight lines is known as nonagon.
- **Decagon:** The closed figure made with ten straight lines is termed as decagon polygon.

The most common type of polygons is Triangle, [Rhombus](#), Kite, Trapezium etc. With the above details, it will now be easier for you to determine the shapes.

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