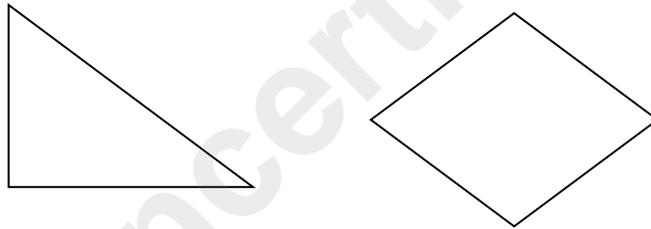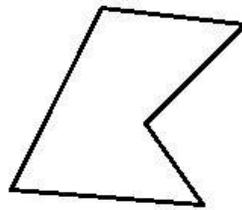# Rectilinear Figures

Polygons

1. A plane figure bounded by straight lines is called a rectilinear figure.

2. A closed figure made up of 3 or more sides is called polygon. Some types of polygons are:

3. If the measure of each interior angle of a polygon is less than 180^0, then it is called a convex polygon.
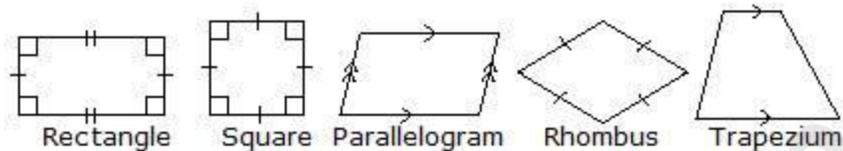

4. If the measure of at least one interior angle of a polygon is more than 180^0, then it is a concave polygon.

5. A polygon with all sides and all angles equal is called a regular polygon.

6. Sum of interior angles of a polygon with n sides = $(2n – 4) \times 90°$

7. Each interior angle of a regular polygon with n sides = $\dfrac{2n - 4}{n} \times 90°$

8. Each exterior angle of a regular polygon = $\dfrac{360^0}{n}$

9. At each vertex of every polygon, Exterior angle + Interior angle = $180°$

Quadrilaterals

1. A quadrilateral is a four sided polygon.
2. Sum of the angles of a quadrilateral is 360°.
3. Types of quadrilateral are:

Rectangle   Square   Parallelogram   Rhombus   Trapezium

Trapezium

A quadrilateral which has exactly one pair of parallel sides is called a trapezium.

An isosceles trapezium is a trapezium in which the two non-parallel sides are equal.

Parallelogram

A quadrilateral in which both the pairs of opposite sides are parallel is called a parallelogram.

A quadrilateral is a parallelogram if

    a.   its opposite sides are equal
    b.   its opposite angles are equal
    c.   its diagonals bisect each other
    d.   consecutive angles are supplementary

Rectangle

A parallelogram is called a rectangle if

    a. diagonals are equal
    b. diagonals bisect each other
    c. each angle is a right angle

Rhombus

A parallelogram is called a rhombus if

    a. all the sides are equal
    b. diagonals bisect each other at right angles

Square

A parallelogram is called a square if

a. all the sides are equal

b. each angle is a right angle

c. diagonals are equal

d. diagonals bisect each other at right angle