

CBSE CLASS 8 Quadrilaterals

FORMULAE – v1









Dt: 21/01/2022

POLYGON

1. A simple closed curve made up of only line segments is called **a polygon**.
2. The meeting point of a pair of sides is called its **vertex**.
3. End points of the **same side** of polygon are called the **adjacent vertices**.
4. Any two sides with a common meeting point are called **adjacent sides**.
5. If you join the **pair of vertices** which are **not adjacent**, they form **diagonals**.
6. A **convex polygon** is one in which each diagonal (except its endpoints) is in the interior (inside) of the polygon.
7. A **concave polygon** is one in which at least one diagonal is **not in the interior** of the polygon.
8. A **regular polygon** is both '**equiangular**' and '**equilateral**'.







CLASSIFICATION OF POLYGONS

- Polygons are classified according to the number of sides (or vertices).

Number of sides or vertices	Classification	Figure
3	Triangle	
4	Quadrilateral	
5	Pentagon	
6	Hexagon	
7	Heptagon	
8	Octagon	
9	Nonagon	
10	Decagon	
n	n-gon	

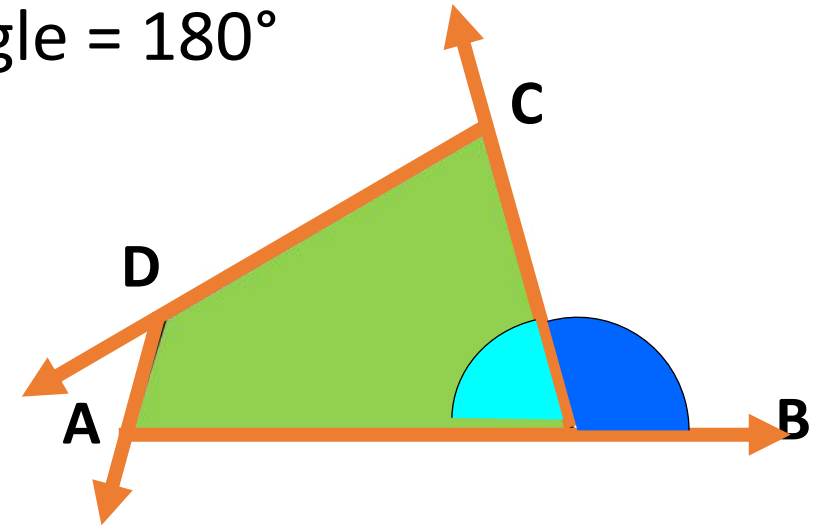


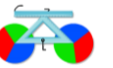
TYPES OF QUADRILATERAL

<p>1. Trapezium</p> 	<p>2. Parallelogram</p> 	<p>3. Rhombus</p> 
<p>4. Rectangle</p> 	<p>5. Square</p> 	<p>6. Kite</p> 

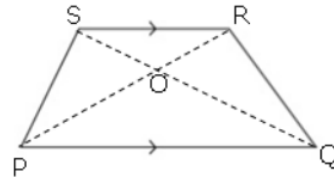
Angle sum property of Quadrilateral

- Sum of **internal angles of a** quadrilateral is **360°** .
- The total measure of the EXTERNAL angles of **any POLYGON** is **360°** .
- Sum of **external angles** of a quadrilateral is 360° .
- Sum of a pair of internal angle and external angle = 180°

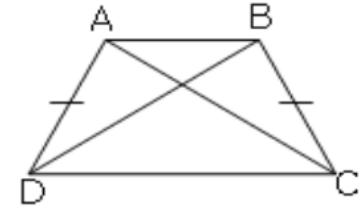




PROPERTIES



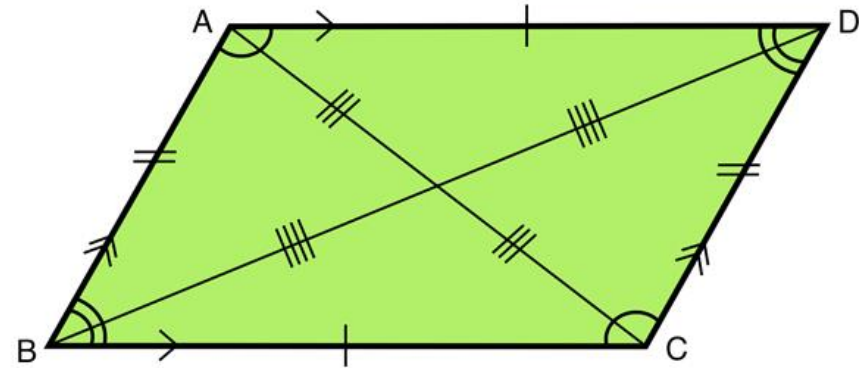
- TRAPEZIUM
- One pair of opposite sides is parallel.
- Sum of Co-interior angles are supplementary.



- ISOSCELES TRAPEZIUM
- Non-parallel sides are equal.
- Diagonals are equal
- Sum of Co-interior angles are supplementary

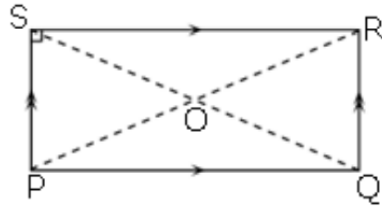
PARALLELOGRAM

- Opposite sides are parallel & equal.
- Opposite angles are equal.
- Adjacent angles (co-interior angles) are supplementary.
- Diagonals bisect each other.
- Each diagonal divides the parallelogram into two congruent triangles.



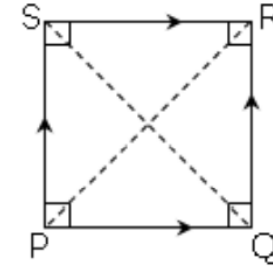
PROPERTIES

- RECTANGLE



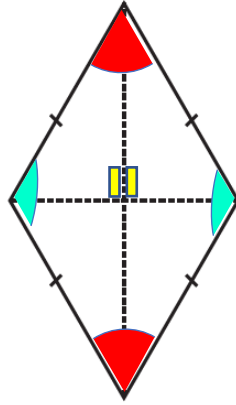
- All properties of parallelogram
- Opposite sides are equal.
- Each angle is a right angle.
- Diagonals are equal.
- Diagonals bisect each other.

- SQUARE

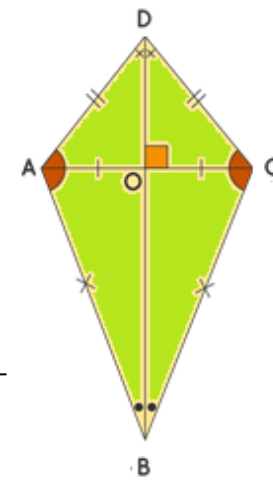


- All properties of parallelogram
- All the sides are equal.
- Each angle is a right angle.
- Diagonals are equal.
- Diagonals bisect each other at right angle.

PROPERTIES



- RHOMBUS
- All sides are **parallel**.
- All sides are **equal**.
- **Opposite angles** are **equal**.
- Diagonals **bisect** one another.
- Diagonals **intersect at 90°**.



- KITE
- Adjacent sides are **equal**.
- **One pair of opposite angles** are **equal**.
- Diagonals **intersect at 90°**.