Polygons
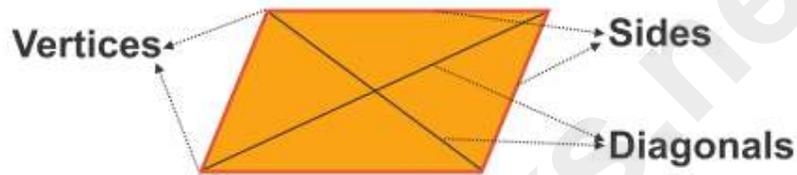
Polygons

A **polygon** is a closed figure formed by line segments, such that:
- Two line segments intersect only at their end-points

Vertices → ← Sides

→ Diagonals

Polygon	# of sides	# of triangles	Sum of interior angles
Triangle	3	1	$180°$
Quadrilateral	4	2	$2 \cdot 180 = 360°$
Pentagon	5	3	$3 \cdot 180 = 540°$
Hexagon	6	4	$4 \cdot 180 = 720°$
Heptagon	7	5	$5 \cdot 180 = 900°$
Octagon	8	6	$6 \cdot 180 = 1080°$
n-gon	n	n – 2	$(n - 2) \cdot 180°$

Type	Properties
Parallelogram	• Opposite sides are equal and parallel • Opposite angles are equal
Rectangle	• Opposite sides are equal and parallel • All angles are right angles (90°)
Square	• Opposite sides are parallel • All sides are equal • All angles are right angles (90°)
Rhombus	• Opposite sides are parallel • All sides are equal • Opposite angles are equal • Diagonals bisect each other at right angles (90°)
Trapezoid	• One pair of opposite sides is parallel
Kite	• Two pairs of adjacent sides are equal • One pair of opposite sides are equal • One diagonal bisects the other • Diagonals intersect at right angle (90°)