

Understanding Quadrilaterals

Polygon

Polygon is any (closed) two dimensional shape formed with straight lines.

Classification Of Polygon

Based on relation between sides and angles

- **Regular Polygon**

Having equal sides and equal interior angles



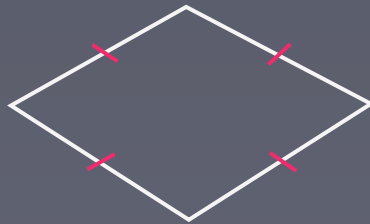
- **Irregular Polygon**

Not all sides or interior angles are equal.



- **Equilateral Polygon**

All sides are equal.



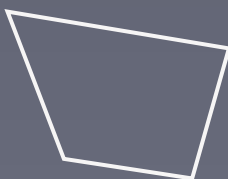
- **Equiangular polygon**

All interior angles are equal.



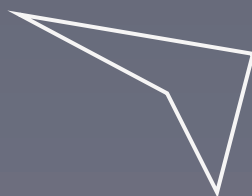
- **Convex Polygon**

All interior angles are less than 180°



- **Concave Polygon**

At least one interior angle is more than 180°



Based on number of sides

- **Triangle**

Polygon with 3 sides

- **Quadrilateral**

Polygon with 4 sides

- **Pentagon**

Polygon with 5 sides

- **Hexagon**

Polygon with 6 sides

- **Heptagon**

Polygon with 7 sides

- **Octagon**

Polygon with 8 sides

- **Nonagon**

Polygon with 9 sides

- **Decagon**

Polygon with 10 sides

Angle Sum Property Of Polygon

1 Interior Angles

For n-sided polygon,

Sum of all interior angles = $(n-2) \times 180^\circ$

For n-sided regular polygon,

Measure of each interior angle

$$= \frac{(n-2)}{n} \times 180^\circ$$

2 Exterior Angles

For n-sided polygon,

Sum of all exterior angles = 360°

For n-sided regular polygon,

Measure of each exterior angle

$$= \frac{360^\circ}{n}$$