

Mensuration

Polygon

A polygon is any (closed) 2-dimensional shape formed with straight lines

Types of Polygon

1. Concave polygon



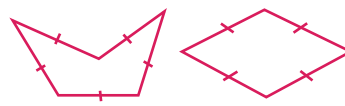
At least one interior angle measures more than 180°

2. Convex polygon



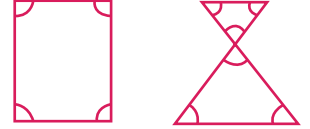
All interior angles are less than 180°

3. Equilateral polygon



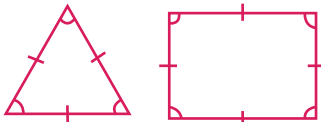
All sides are equal

4. Equiangular polygon



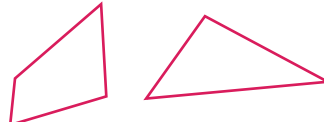
All interior angles are equal

5. Regular polygon



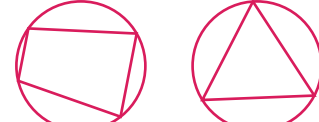
All sides and all interior angles are equal

6. Irregular polygon



Neither the sides nor the interior angles are equal

7. Cyclic Polygons



All the vertices are on a circle

Area

Area is the amount of 2-dimensional space taken by a closed figure

Perimeter

Perimeter is the total boundary length of 2-dimensional shape

Quadrilateral

A 4-sided closed polygon is called as a Quadrilateral. Different types of Quadrilaterals and their properties are :

Types of Quadrilaterals

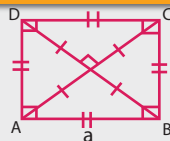
Figure

Area

Perimeter

Square :

$AB = BC = CD = AD$
 $\angle A = \angle B = \angle C = \angle D = 90^\circ$

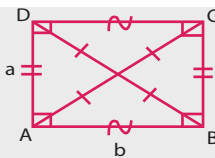


Area = a^2

Perimeter = $4a$

Rectangle :

$AB = CD, BC = AD$
 $\angle A = \angle B = \angle C = \angle D = 90^\circ$

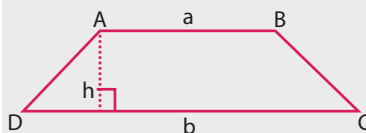


Area = $a.b$

Perimeter = $2(a+b)$

Trapezium :

$AB \parallel CD$
 $\angle A + \angle D = \angle B + \angle C = 180^\circ$

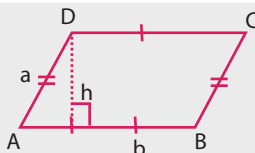


Area = $\frac{(a+b)h}{2}$

Perimeter = sum of all sides

Parallelogram :

$AB \parallel CD, AD \parallel CB$
 $\angle A = \angle C$ and $\angle B = \angle D$

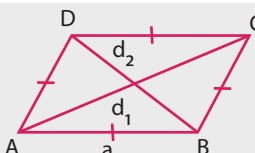


Area = $b.h$

Perimeter = $2(a+b)$

Rhombus :

$AB = BC = CD = AD$
 $\angle A = \angle C, \angle B = \angle D$



Area = $\frac{d_1 d_2}{2}$

Perimeter = $4a$