Perimeter of a Regular Polygon

1. Regular Polygon

A regular polygon is a closed shape with all sides and angles equal.

Examples: Equilateral triangle, Square, Regular pentagon, Regular hexagon, etc.

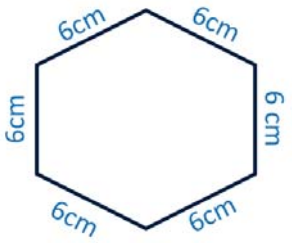
2. Perimeter of a Regular Polygon?

The perimeter of a regular polygon is the total length of its boundary.

Since all sides are equal, the formula for perimeter is:

Perimeter = Number of sides × Length of one side

3. Example Calculations



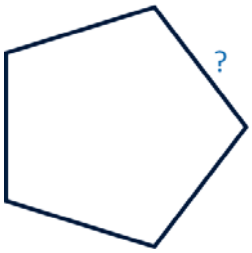
Example:

Find the perimeter of a regular hexagon where each side is 6 cm.

P = 6 × 6 = 36 cm

Example:

A regular pentagon has a perimeter of 50 cm. Find the length of one side.



P = 5 × side length

50 = 5 × x

x = 50 ÷ 5 = 10 cm

4. Properties of the Perimeter of a Regular Polygon

i. All sides are equal, so multiplying one side by the number of sides gives the perimeter.

ii. The perimeter increases as the number of sides or side length increases.

iii. A regular polygon has equal angles along with equal sides.

iv. A square is a special case of a regular polygon where all angles are 90°.

v. Common regular polygons include equilateral triangles, squares, regular pentagons, hexagons, etc.