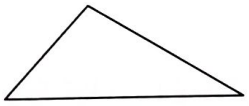
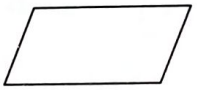
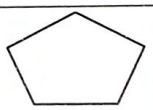
§ 7.8 POLYGONS

- A **polygon** is a closed figure having three or more sides which are straight lines.
- A **regular polygon** has sides equal in length and angles equal in size.

Name	Number of sides	Polygon
triangle	3	
quadrilateral	4	
pentagon	5	
hexagon	6	

Note:

- The **sum of the interior angles** of a polygon of n sides is $180° \times (n-2)$
- The **size of an interior angle** of a regular polygon of n sides is $\frac{180°(n-2)}{n}$
- Other polygons are: heptagon (7 sides), octagon (8 sides), nonagon (9 sides), decagon (10 sides)

EXAMPLE	SOLUTION
1) Calculate the sum of the interior angles of a regular pentagon	A pentagon has 5 sides, so $n = 5$. Sum of interior angles $= 180°(5-2) = 180°(3) = 540°$
2) Calculate the size of each interior angle.	The size of each interior angle $= 540° \div 5 = 108°$.

Exercise 7.8

Calculate:

a) the sum of the interior angles of the regular polygon
b) the size of each interior angle.

1) Hexagon .....

2) Octagon .....

3) Triangle .....

4) Quadrilateral .....

5) Decagon .....