

Name: .....

Level 10  
Unit 27.1

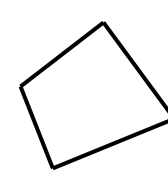
## Geometry: Polygons

Complete 2 pages (215 - 216) within  
6 minutes with > 95% accuracy.

Time Taken:..... Total Score:.....

### Example

A closed geometric figure made by three or more line segments is a polygon. The segments are sides and the point of intersection of sides is a vertex. In a regular polygon, all sides and angles have the same measure. An irregular polygon is a polygon that is not regular.



Polygon



Not Polygon;  
It is not closed.



Not polygon;  
Polygons  
cannot have  
curves.

Name	Triangle	Quadrilateral	Pentagon	Hexagon	Heptagon	Octagon
Regular						
Irregular						

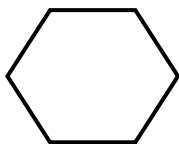
The internal angle sum of each regular polygon is given below.

Name	Number of triangles	Sum of angles	Name	Number of triangles	Sum of angles
Triangle		$1 \times 180^\circ = 180^\circ$	Pentagon		$3 \times 180^\circ = 540^\circ$
Quadrilateral		$2 \times 180^\circ = 360^\circ$	Hexagon		$4 \times 180^\circ = 720^\circ$

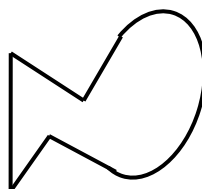
### Exercise

1. Which of the shapes below are polygons? For each shape that is a polygon, identify what kind of polygon it is. Also mention if it is a regular polygon.

a)



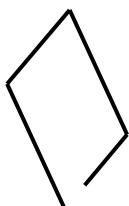
b)



c)



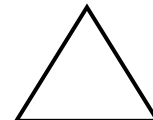
d)



e)



f)



### Exercise

2. Are the following polygons regular? Explain why or why not.
  - a) Right Triangle
  - b) Square
  - c) Equilateral triangle
3. Are all parallelograms regular polygons? Explain with figure(s).
4. Write the name and draw the polygon formed by arranging two equilateral triangles together so that they both share the same side.
5. How many line segments from one vertex can you draw to divide a hexagon into triangles by joining the vertices?
6. How many triangles will form in a regular decagon (10 sides) if the line segments are used to join all vertices from one vertex?