

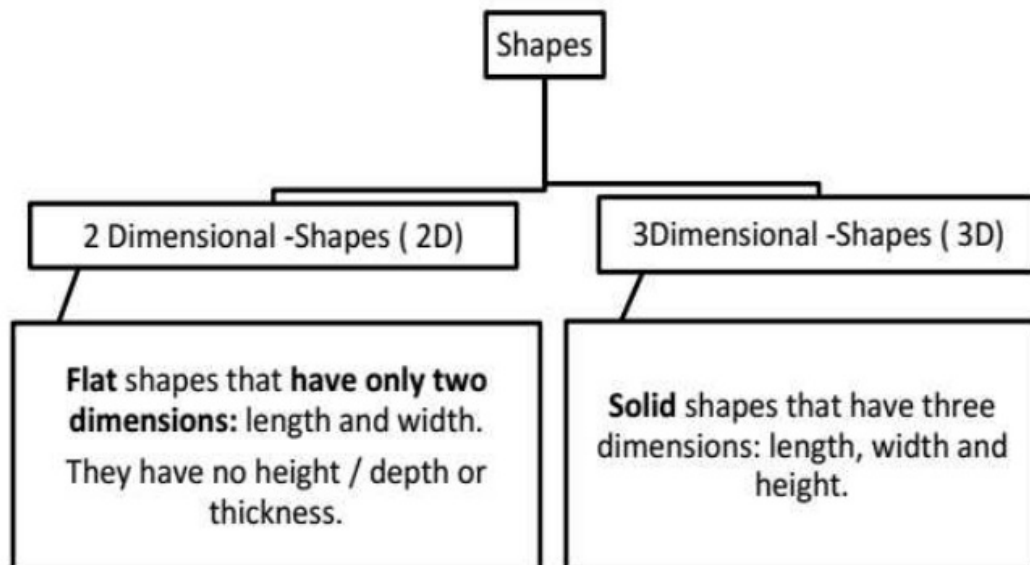
## Chapter 5: 2D Shapes - Introduction

### Objective(s):

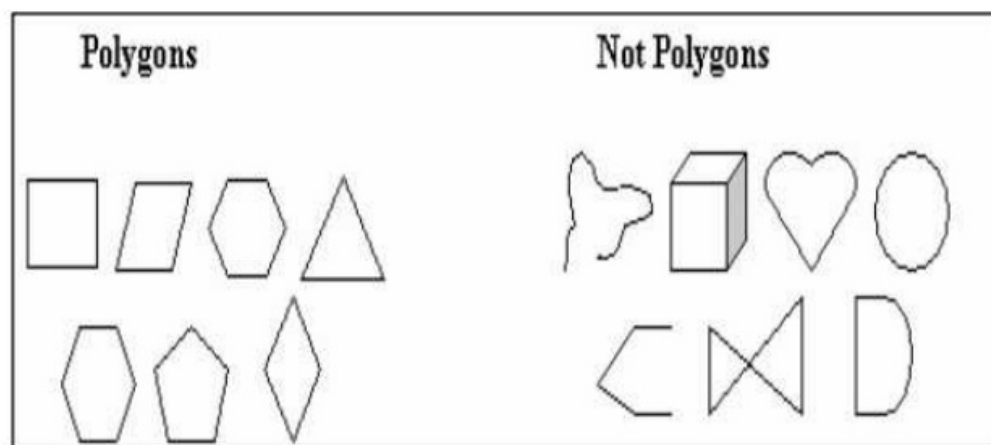
Identify 2D and 3D shapes.

Recognize and name the properties of polygons.

Differ between regular pentagons and irregular pentagons.



\* **Polygons** are two-dimensional shapes that have more than two straight sides, are closed, and have only straight lines that never cross.



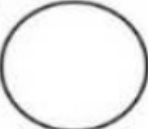

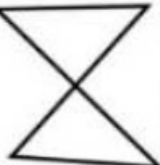
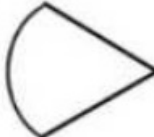

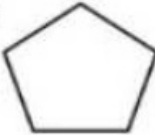


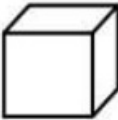
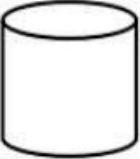
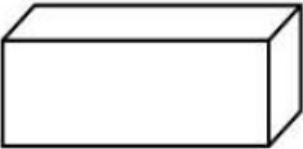










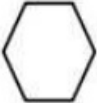
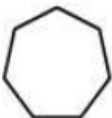
1- Polygons are named according to their number of sides.

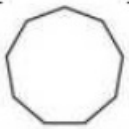
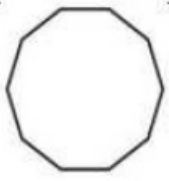
2- All **polygons** are 2D shapes, but **not** every 2D shape is a polygon; for example the circle is a 2D shape but it is not a polygon as it only has a curved side.

**Q1)** Label each shape as a **polygon** or **non- polygon**. Write down why the non- polygons do not fit the criteria.

1. 	6. 
2. 	7. 
3. 	8. 
4. 	9. 
5. 	10. 
11.   	

**Q2)** Complete this table about some 2D shape properties.

<b>2D shape</b>	<b>Total number of sides and angles</b>	<b>Number of straight sides</b>	<b>Number of curved sides</b>	<b>Number of vertices</b>	<b>Name of the shape</b>	<b>Polygon or not- a polygon</b>
						
						
						
						
						
						
						
						

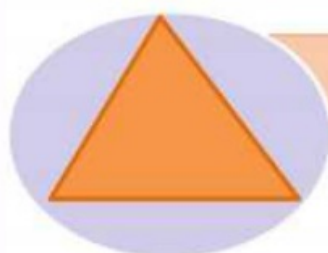
						
						

# Regular Polygons

A polygon is a shape with **straight** sides.

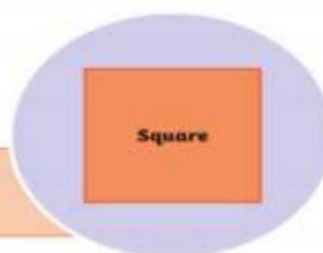
If all the sides are equal in the length and the angles are equal in size, the shape is **regular**.

Regular shapes have equal sides **and** equal angles.



**Regular triangle**

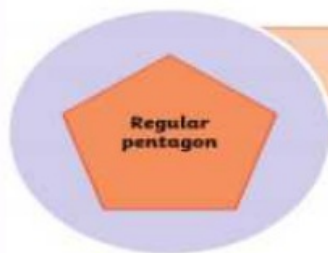
3 equal sides  
3 equal angles



**Square**

**Regular four-sided shape**

4 equal sides  
4 equal angles



**Regular pentagon**

**Regular pentagon**

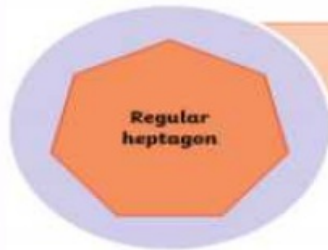
5 equal sides  
5 equal angles



**Regular hexagon**

**Regular hexagon**

6 equal sides  
6 equal angles



**Regular heptagon**

**Regular heptagon**

7 equal sides  
7 equal angles



**Regular octagon**

**Regular octagon**

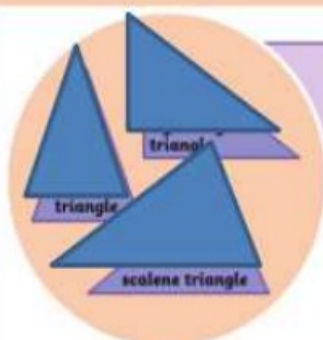
8 equal sides  
8 equal angles

# Irregular Polygons

A polygon is a shape with **straight** sides.

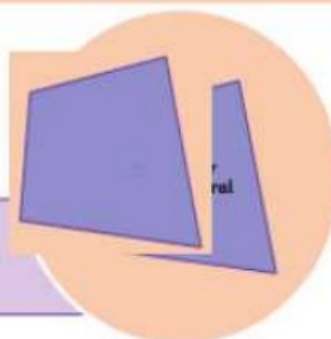
If all of the sides are not equal lengths or all of the angles are not equal sizes, the shape is **irregular**.

Irregular shapes have sides of **different lengths** and angles of **different sizes**.



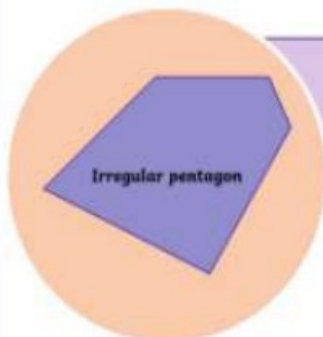
Irregular triangle -

3 sides - with different lengths  
3 angles - different sizes



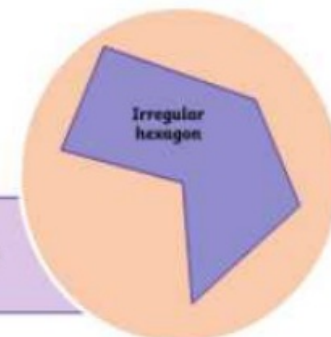
Irregular four-sided shape

4 sides - with different lengths  
4 angles - different sizes



Irregular pentagon

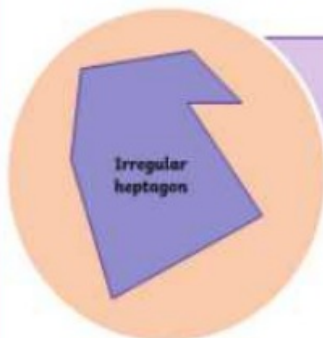
5 sides - with different lengths  
5 angles - different sizes



Irregular hexagon

Irregular hexagon

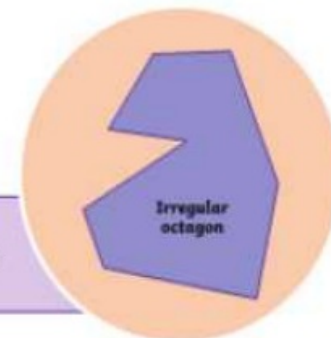
6 sides - with different lengths  
6 angles - different sizes



Irregular heptagon

Irregular heptagon

7 sides - with different lengths  
7 angles - different sizes



Irregular octagon

Irregular octagon

8 sides - with different lengths  
8 angles - different sizes



Q3) Write "regular" or "irregular" next to each polygon and name the shape.



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\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



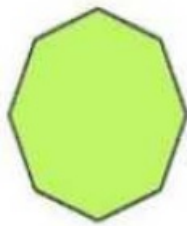
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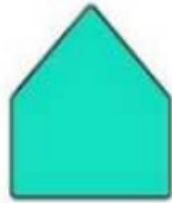
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