WALT identify regular and irregular polygons.

WILF:
- *Identify regular and irregular polygons.*

- Use your knowledge of shapes and angles to help you.

These slides have been edited.

What is a Polygon?

Watch this video by clicking the image to find out about the lengths and angles of regular and irregular polygons:

No internet?

Polygons are 2d shapes with straight sides. Regular polygons have all equal sides, whereas irregular polygons have sides with different lengths and angles.

There a few types:

Quadrilaterals – these are four sided shapes with internal (inside) angles that equal 360 degrees. E.g. square, rhombus, parallelogram, rectangle, trapezium.

Triangles: These are three sided shapes with internal angles that add up to 180 degrees. Triangles can be: equilateral, scalene, isosceles and right angle.

Other **regular polygons** such as hexagons, octagons, pentagons...
These have sides of an equal length.

These shapes are all different, but they are all polygons.

BBC Bitesize

Discuss these statements about polygons.
Are they true or false?

True	False

They have 5 or more sides

They are made up of straight lines

They are 3D shapes

They are 2D shapes

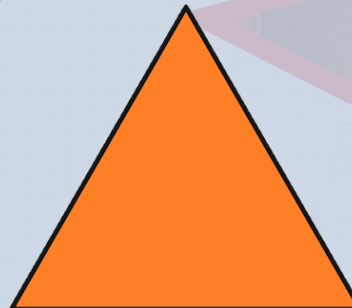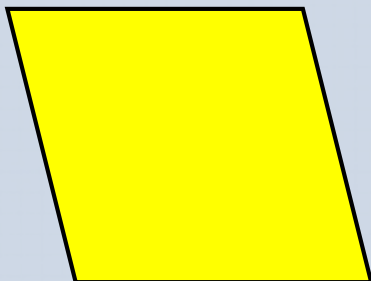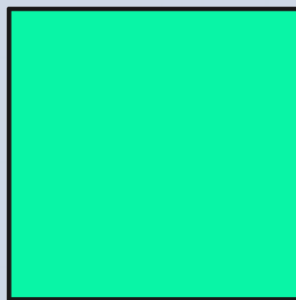They are a closed shape (no gaps)
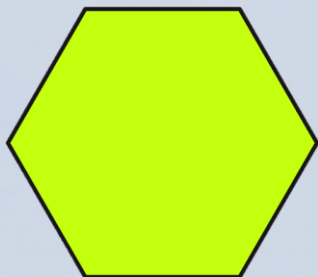
They can have curved sides

They include open shapes

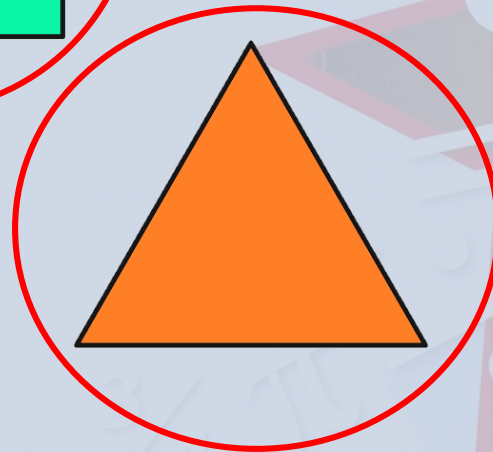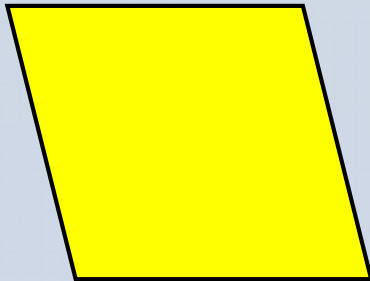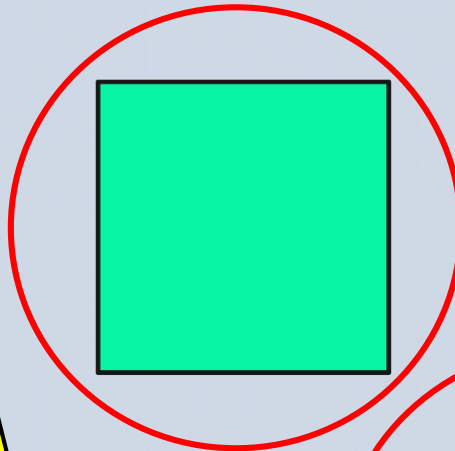Discuss these statements about polygons.
Are they true or false?

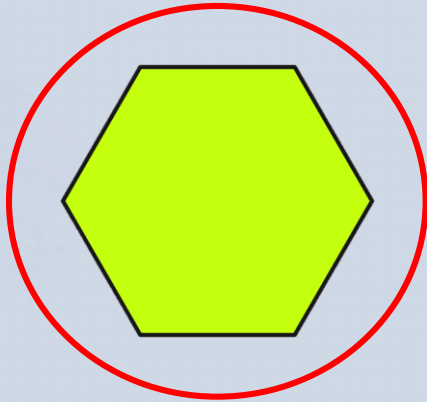| True	False
They are a closed shape (no gaps) They are made up of straight lines They are 2D shapes	They are 3D shapes They include open shapes They can have curved sides They have 5 or more sides

Circle the regular polygons.

Circle the regular polygons.
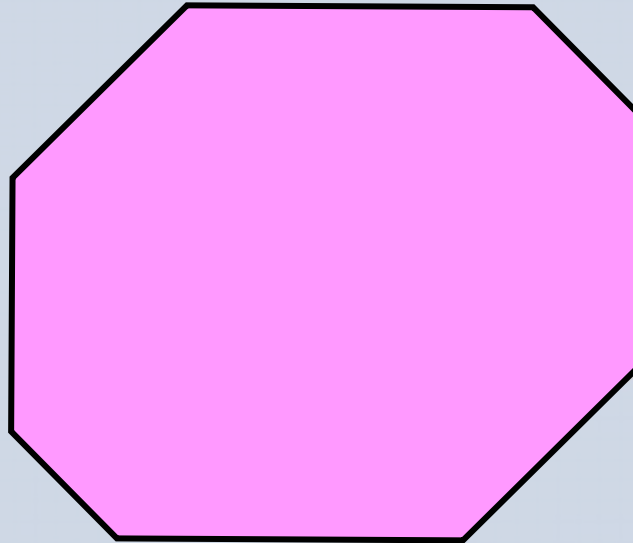
This is a regular octagon.

True or false?

This is a regular octagon.
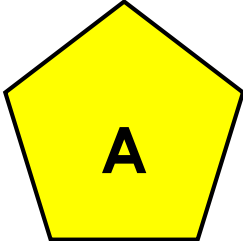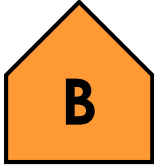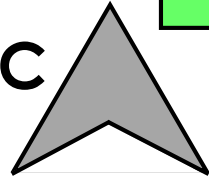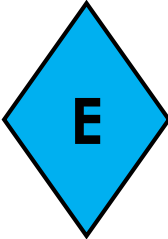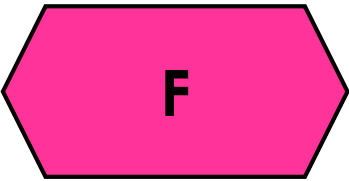
True or false?
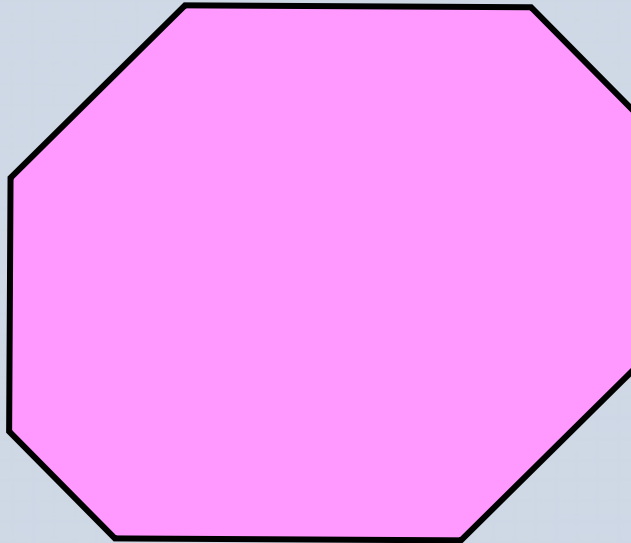
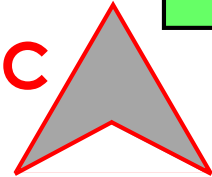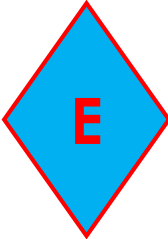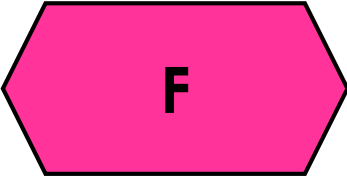False.
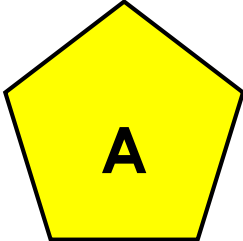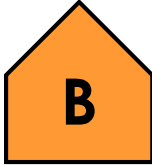
This is an irregular octagon as there are angles and sides of different lengths.

Has Toni sorted these shapes correctly? Explain your answer.

	Regular Polygon	Irregular Polygon
Has 5 sides	A	B
Not 5 sides	C D E	F

Has Toni sorted these shapes correctly? Explain your answer.

	Regular Polygon	Irregular Polygon
Has 5 sides	A	B
Not 5 sides	D C E	F

Toni has not sorted the polygons correctly because C and E are both irregular polygons as they have sides and angles of different sizes.
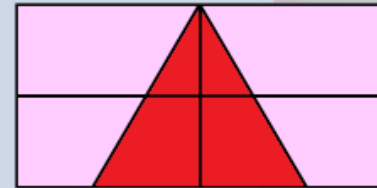
How many regular polygons can you see in this shape?
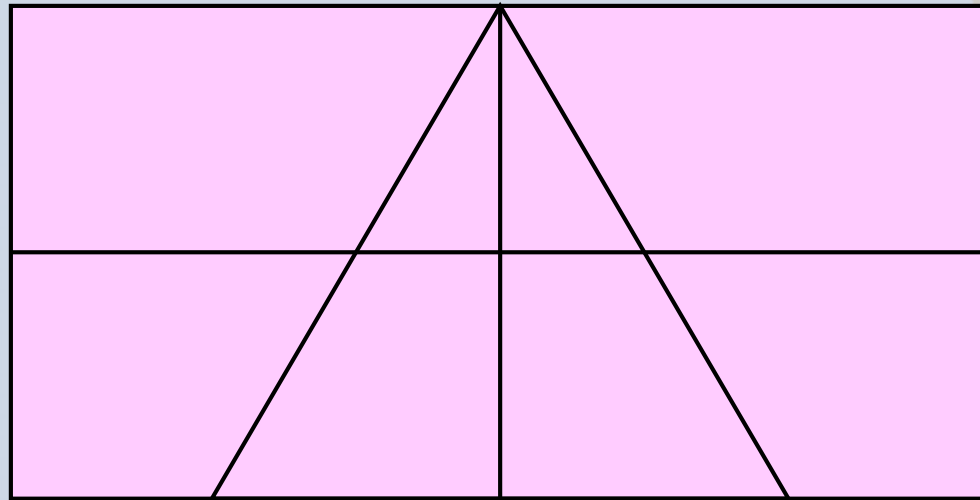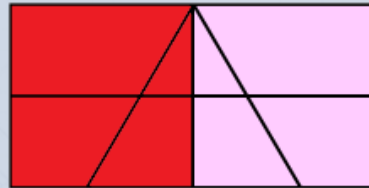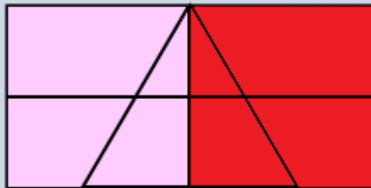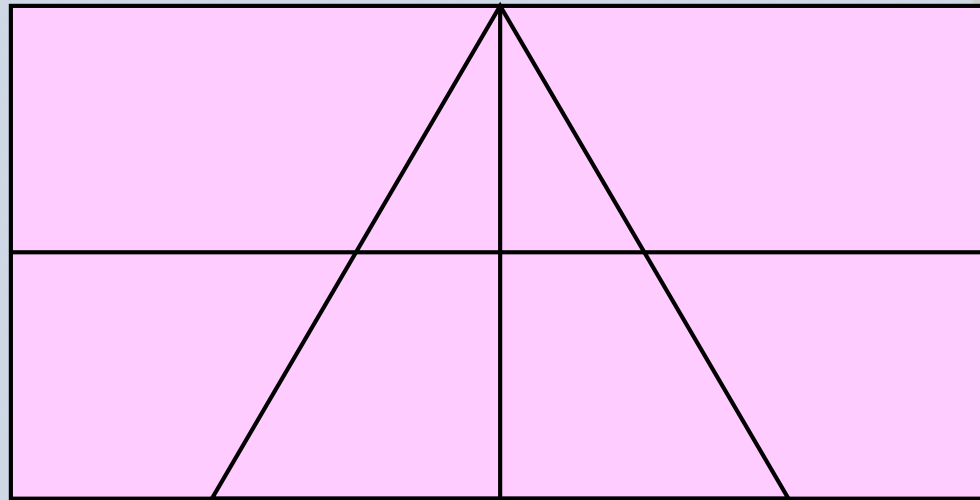
How many regular polygons can you see in this shape?

3 regular polygons (2 regular squares and 1 regular triangle).

Now complete today's activity. ☺

You can look back at the Polygon explanation slides if you get confused!

Remember to explain your answers with problem solving language and examples.