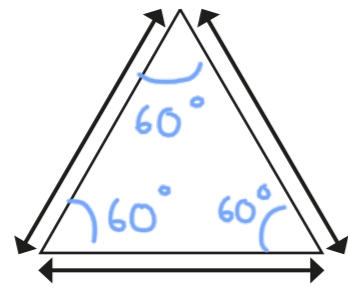# Regular and irregular polygons
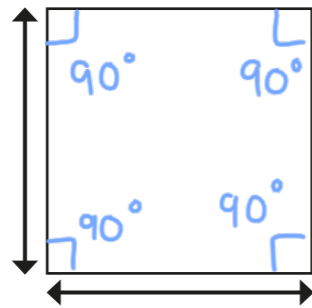
1 Measure and label the sides and angles of each shape.
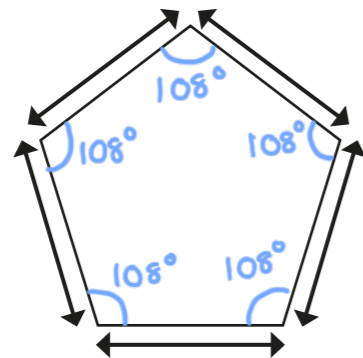
a)

60°
60° 60°

Side lengths depend on how the sheets are printed.

b)

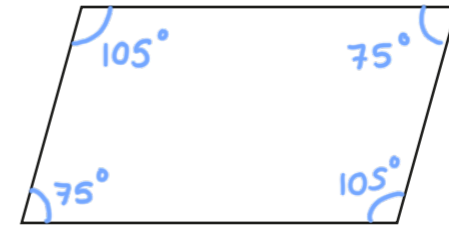90° 90°
90° 90°

c)

108°
108° 108°
108° 108°

What do you notice about your answers?

These are all examples of regular polygons.

Explain in your own words what a regular polygon is.

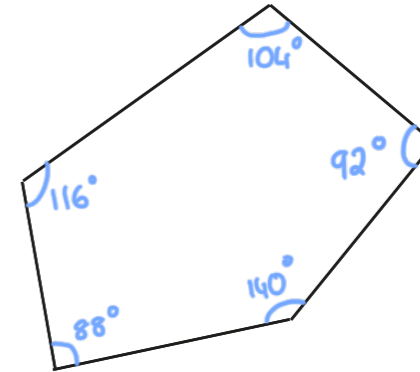**2** Measure and label the sides and angles of each shape.

a)

105° 75°
75° 105°

b)

113°
27° 40°

c)

104°
116° 92°
88° 140°
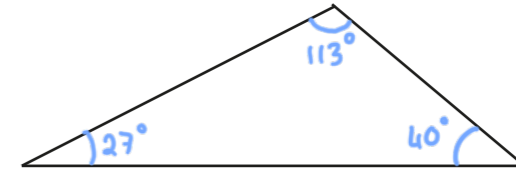
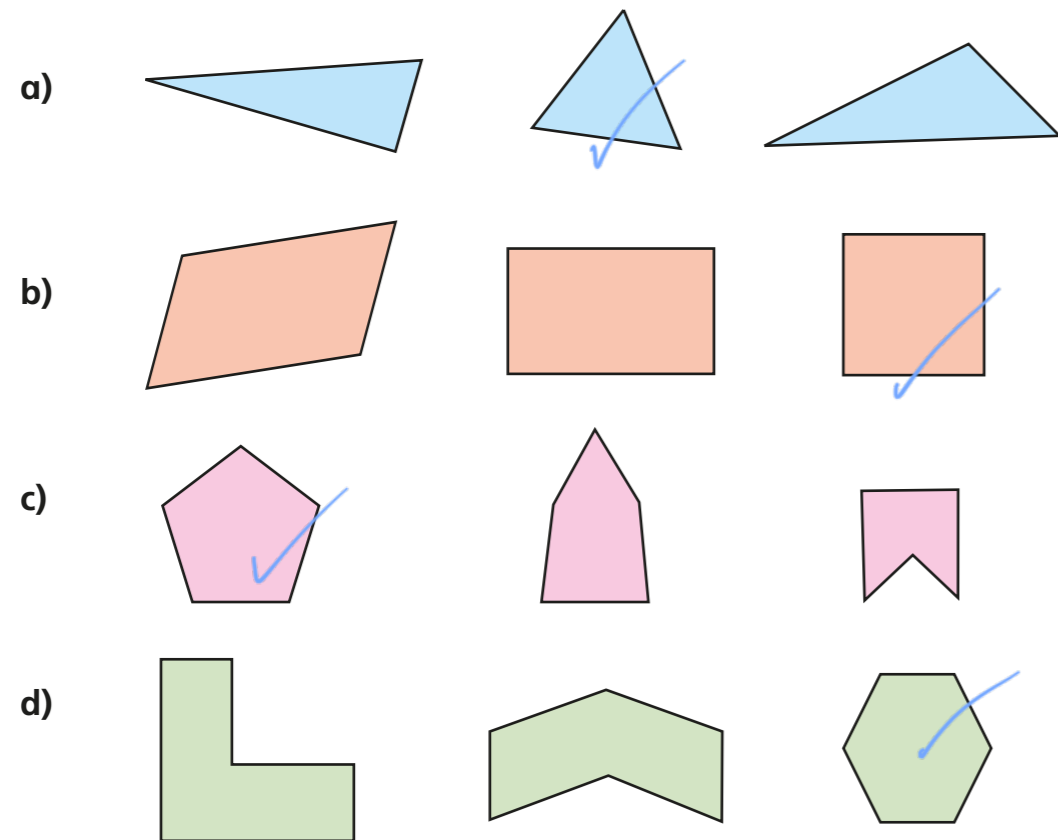What do you notice about your answers?

These are all examples of irregular polygons.

Explain in your own words what an irregular polygon is.

A polygon where the sides and angles are not all equal.

3 One polygon in each set is regular. Tick the regular polygon.

a) [three triangles, the middle one ticked ✓]

b) [parallelogram, rectangle, square — the square ticked ✓]

c) [pentagon ticked ✓, house shape, flag shape]

d) [L-shape, arrow/chevron shape, hexagon ticked ✓]

How did you know which one was regular without measuring?

4 Draw two regular and two irregular polygons on the grid.
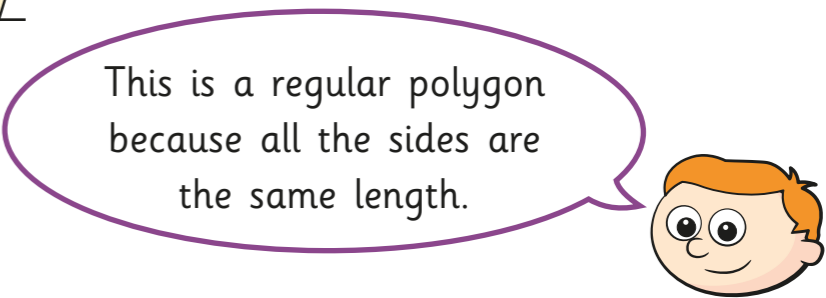
e.g.

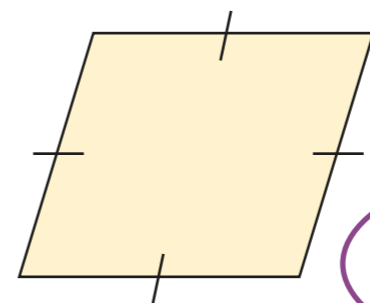[grid with hand-drawn shapes]
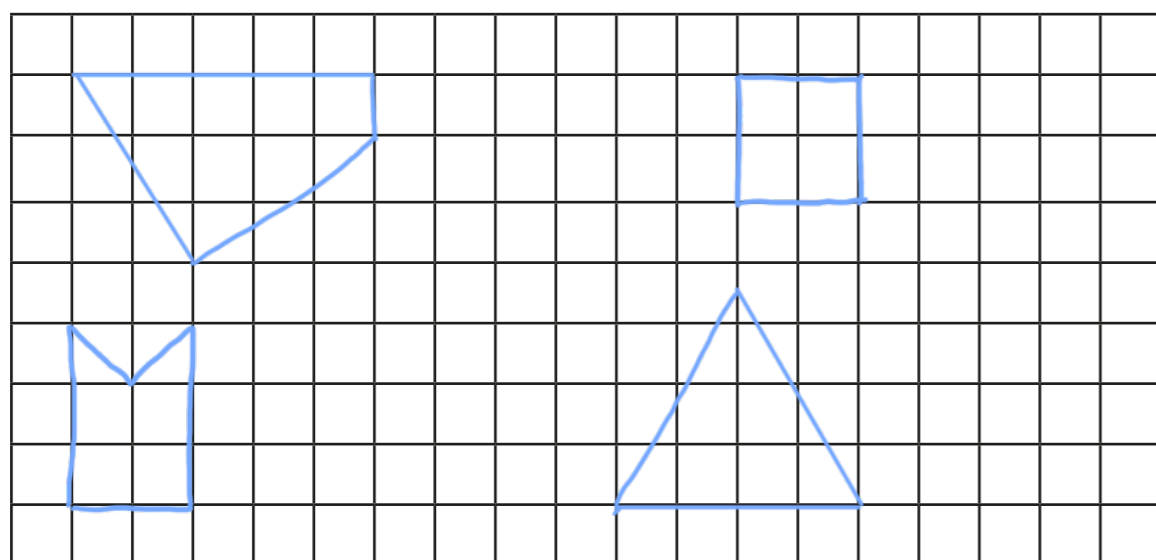
Compare your polygons with a partner.

What is the same and what is different?

5 Here is a rhombus.

[rhombus shape with marks on sides]

> This is a regular polygon because all the sides are the same length.
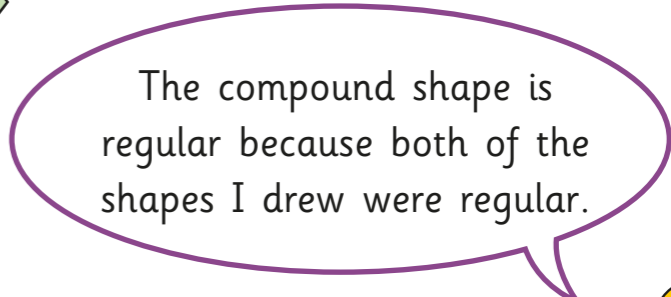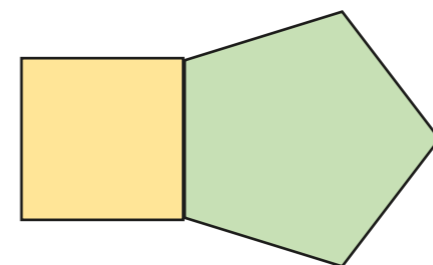
Do you agree with Ron? __No__

Explain your answer.

The angles are not all equal.

6 Eva has drawn a square and a regular pentagon.

[square and pentagon compound shape]

> The compound shape is regular because both of the shapes I drew were regular.

Do you agree with Eva? __No__

Explain your answer.