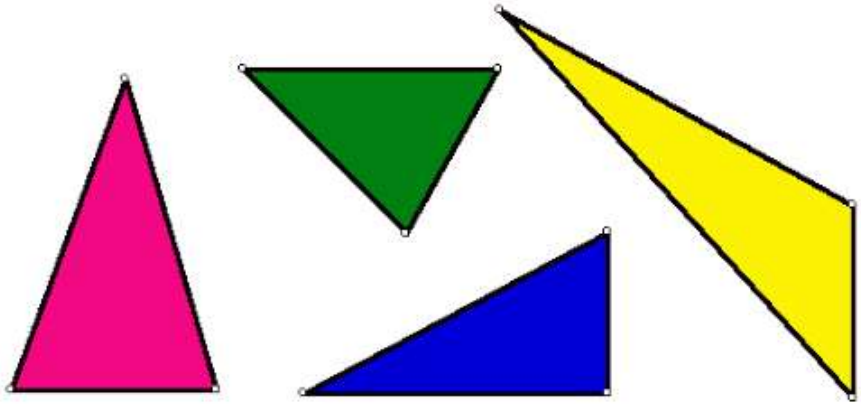
Wednesday 8th July- Triangles

Today we will be looking at triangles and their properties.

A **triangle** is a polygon with three edges and three vertices (points where lines meet).



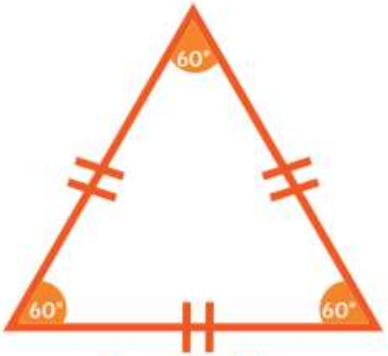
THESE SHAPES ARE TRIANGLES

Types of triangles

There are mainly three different types of triangles:

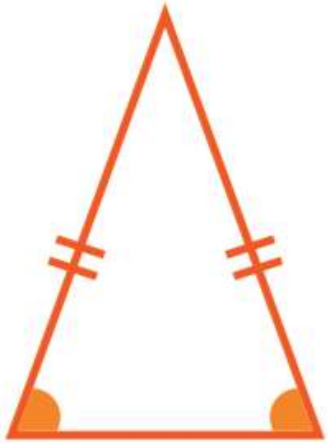
- Right angle
- Equilateral
- Isosceles
- Scalene

equilateral



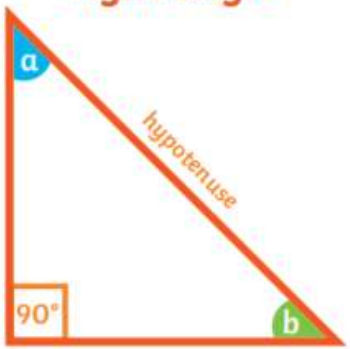
3 equal sides
3 equal angles (60°)

isosceles



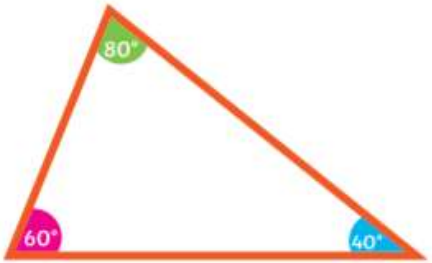
2 equal sides
2 equal angles

right angle



One angle is a right angle (90°)
Two other angles add up to 90°
The longest side is called the hypotenuse.

scalene



All sides are different
All angles are different.

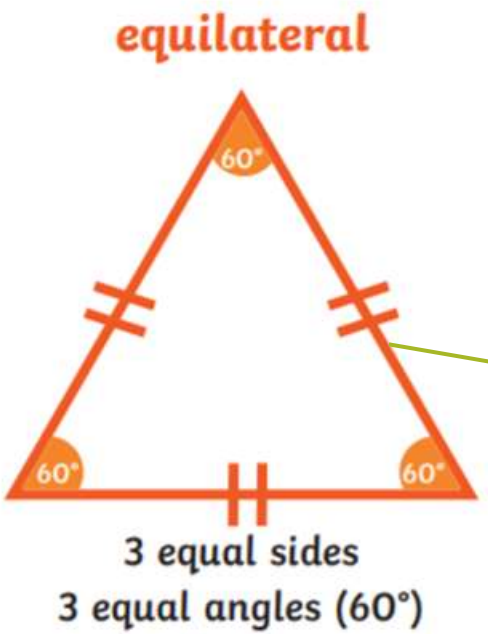
Right angle triangles

One angle is a right angle (90°)
Two other angles add up to 90°
The longest side is called the hypotenuse.

Key feature:

A right angled triangle will ALWAYS have one angle that is 90°.

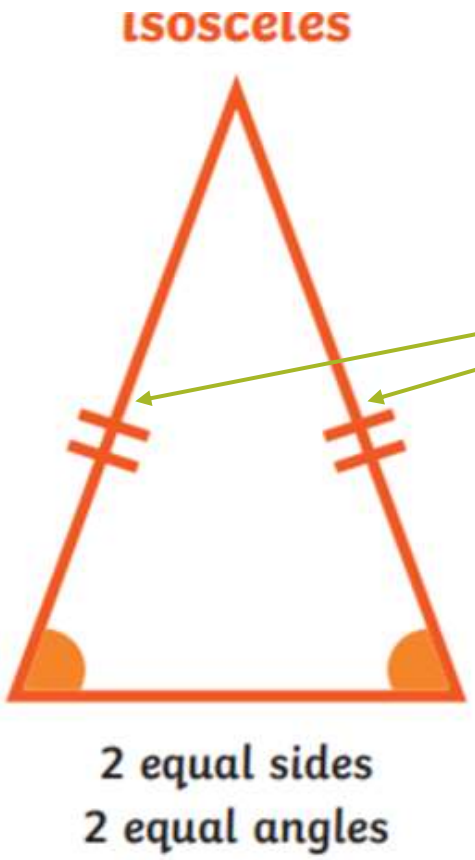
Equilateral triangles



Key feature:

Equilateral triangles have EQUAL angles. The three // dashes drawn on all the edges means they have the same length and angles.

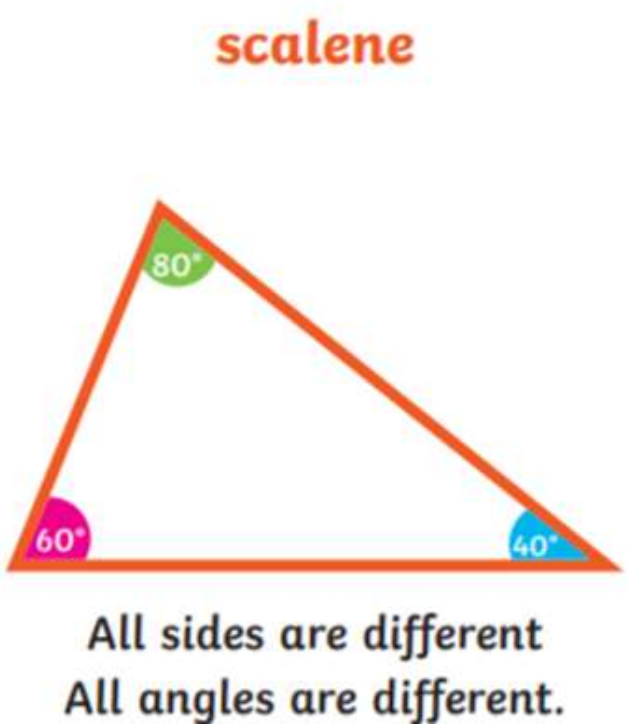
isosceles triangles



Key feature

Isosceles triangles have 2 equal sides and 2 equal angles. The two // dashes drawn on the lines means the lengths and angles are the same on both of the edges.

Scalene triangles

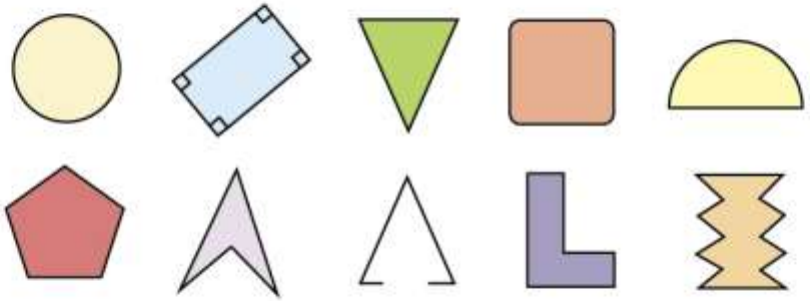


Key features

All the angles are different.

Triangles

1 Here are some shapes.

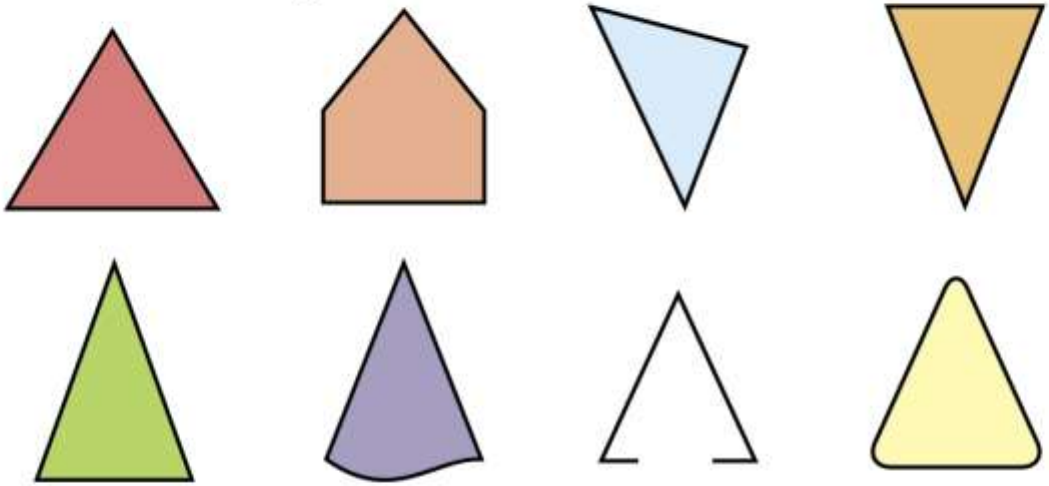


a) Tick the polygons.

b) Talk to a partner about the shapes you have not ticked.
Why are they not polygons?

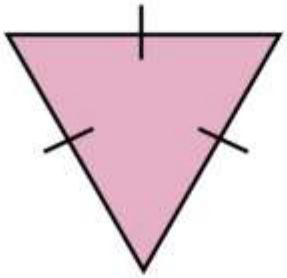
c) Write a definition of a polygon.

2 Tick the triangles.



For any shapes you have not ticked, talk to a partner about why somebody might think they are triangles.

3 Ron is classifying triangles.



a) Ron is incorrect.

Explain why.

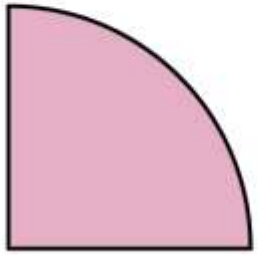
_____

_____

b) What type of triangle is it? _____

4 Annie is identifying shapes.

This shape has 3 sides, so it is a triangle.



Do you agree with Annie? _____

Explain your answer.

_____

_____

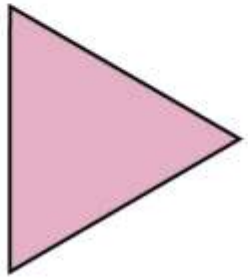
5 Match the type of triangle to the definition.

scalene	2 sides and 2 angles equal
equilateral	no sides or angles equal
isosceles	all sides and all angles equal

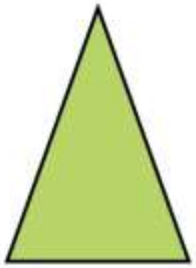
6 Label each triangle as either equilateral, isosceles or scalene.

You will need to measure the side lengths.

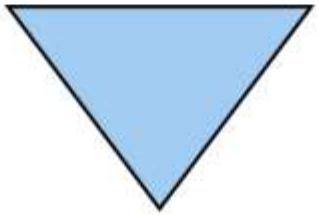
A



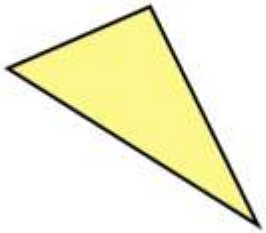
B



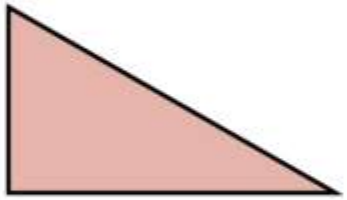
C



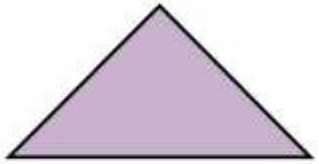
D



E

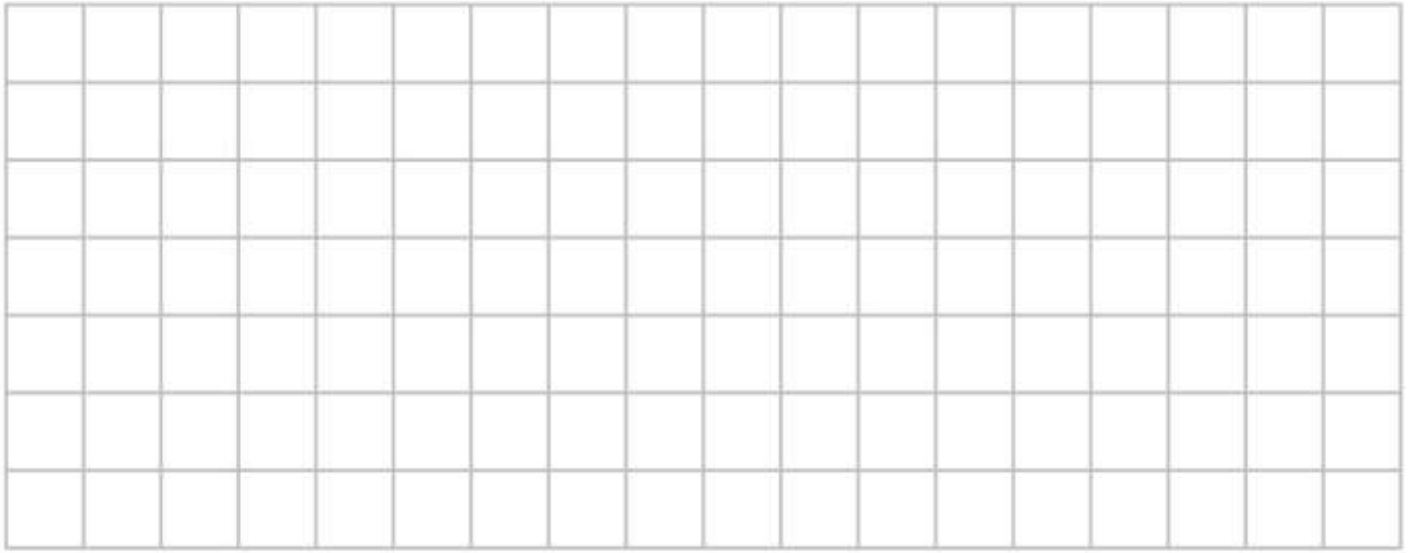


F



7 Draw each triangle in the grid.

a) isosceles **b)** right-angled **c)** scalene

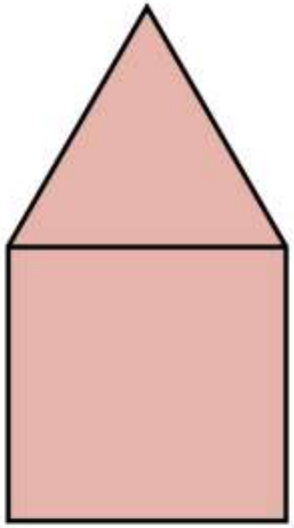


Which triangle was hardest to draw?

8 The diagram shows an equilateral triangle and a square.

The perimeter of the square is 100 cm.

Work out the perimeter of the compound shape.



perimeter = ☐ cm