

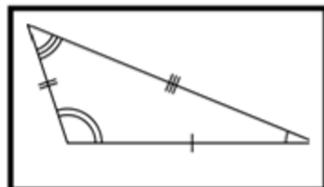
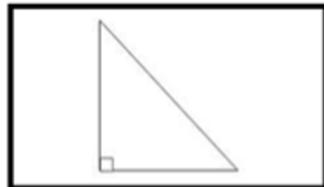
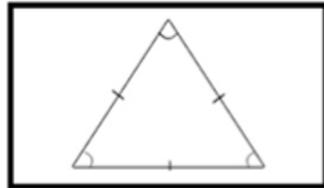
Lesson 1

L.O: I am learning to find angles in a triangle (special cases)



Starter-Revising the properties of Triangles.

Match the triangle to its mathematical name and its description



Right angle

Scalene

Equilateral

Isosceles

No equal sides
And
No equal angles

3 equal sides
And
3 equal angles

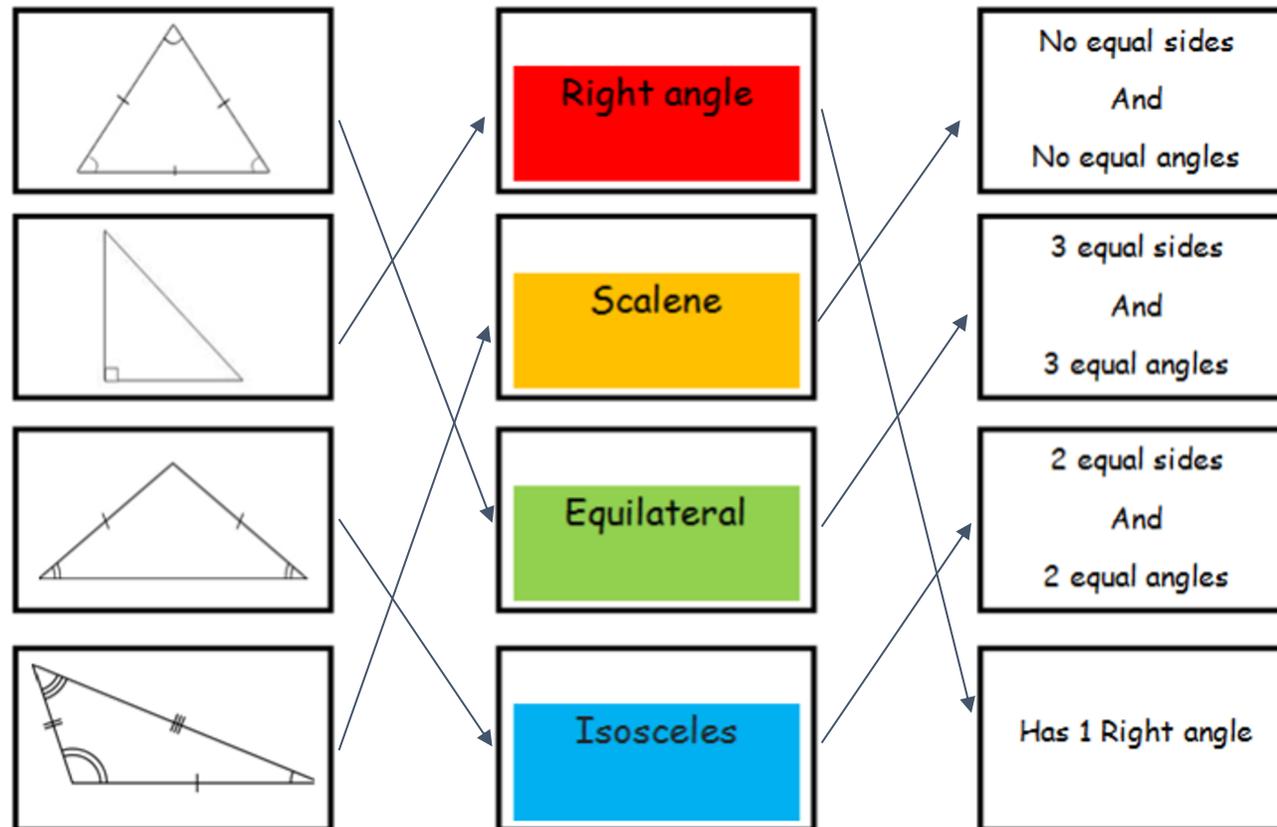
2 equal sides
And
2 equal angles

Has 1 Right angle

Starter-Answers

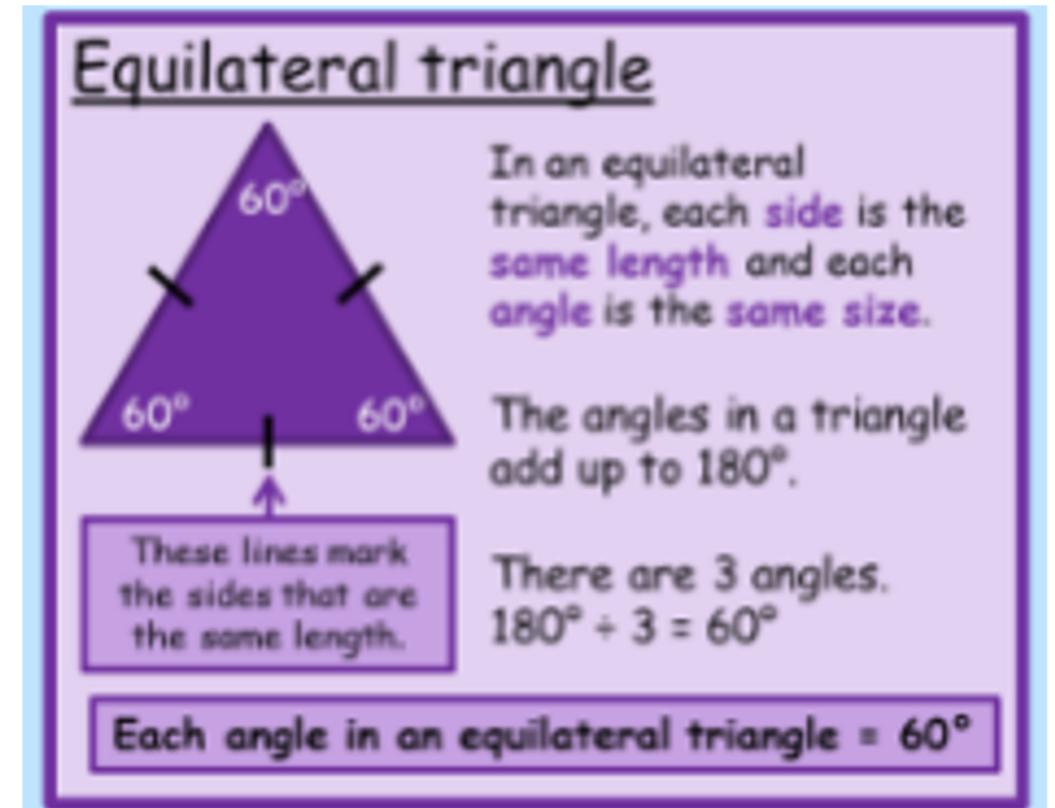
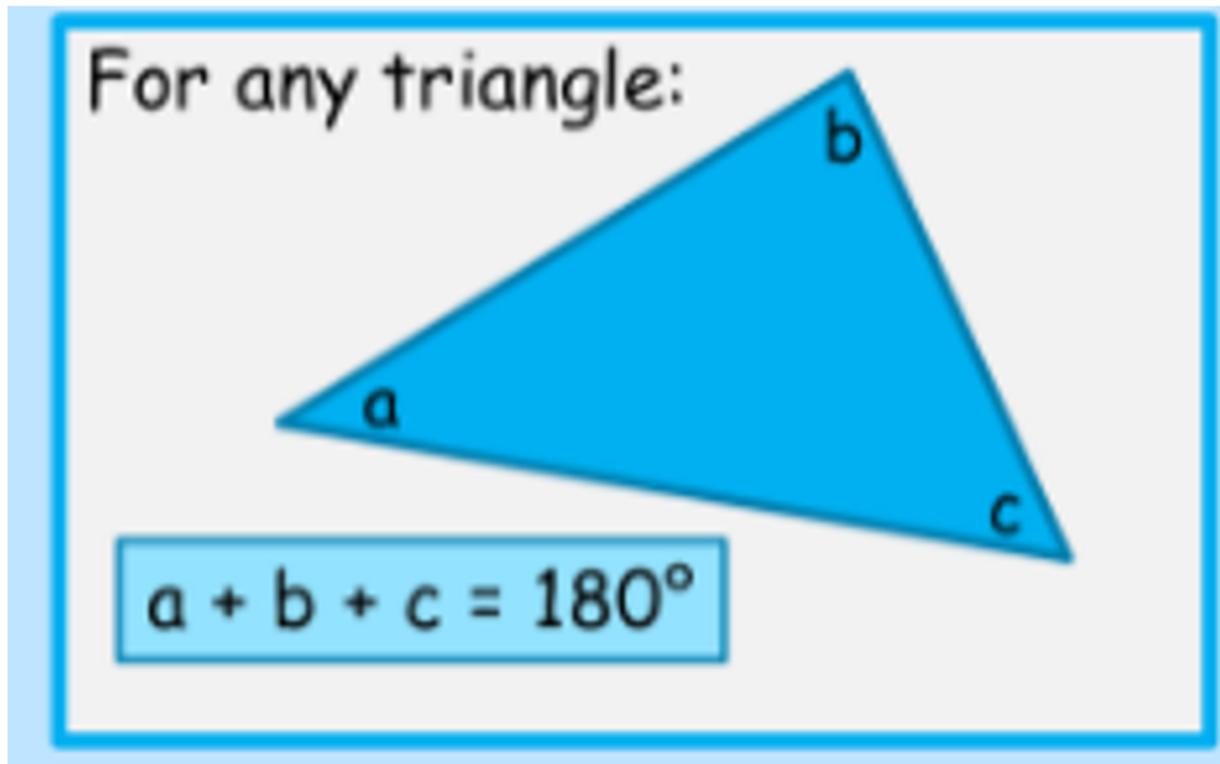
Use website for further support: <https://www.mathsisfun.com/triangle.html>

Match the triangle to its mathematical name and its description.

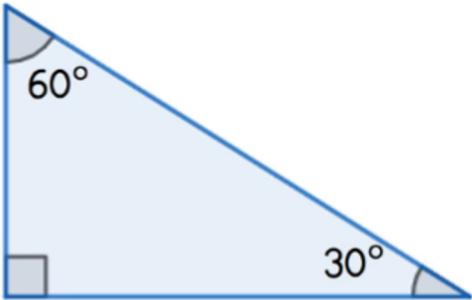


Revision: Understanding triangles

The **three** interior angles for any triangle is the sum of **180°**.



Watch Video and Take notes



Fill in the gap

The internal angles of a triangle sum to _____ °

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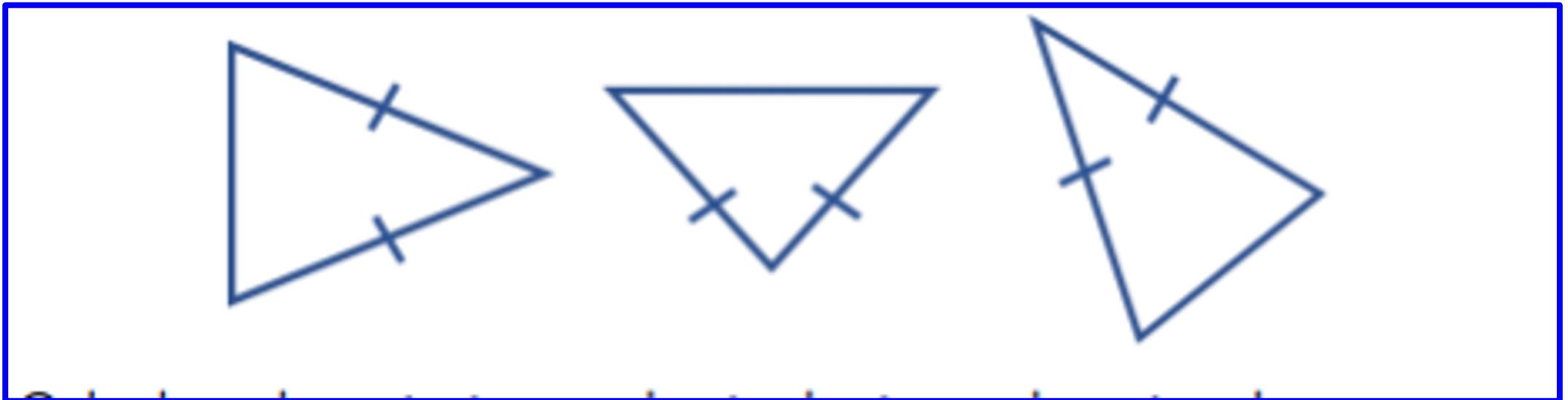
Lesson 3 - Step 6 - Angles in a triangle - special cases

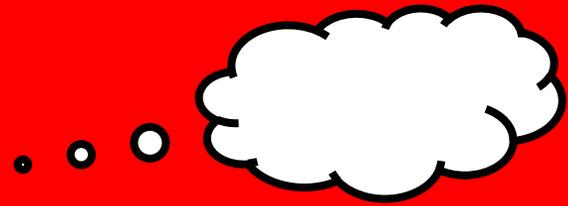
Whiterose- Lesson 3- Step 6- Angles in a triangle- Special Cases

<https://vimeo.com/403441389>

Hatch Marks/Equal length side markings

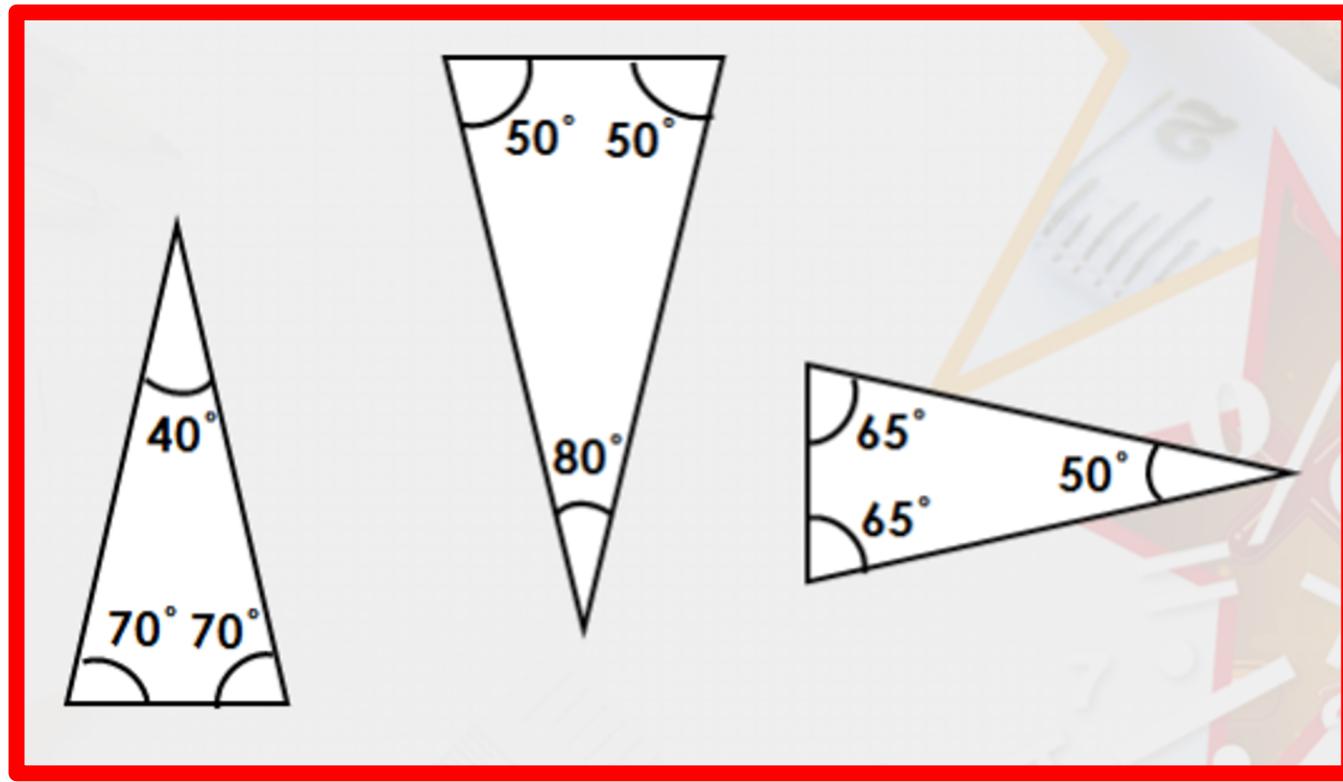
A hatch marks/equal length side markings (a straight line through the side of a shape) indicates a shape has sides of an equal length and angle.





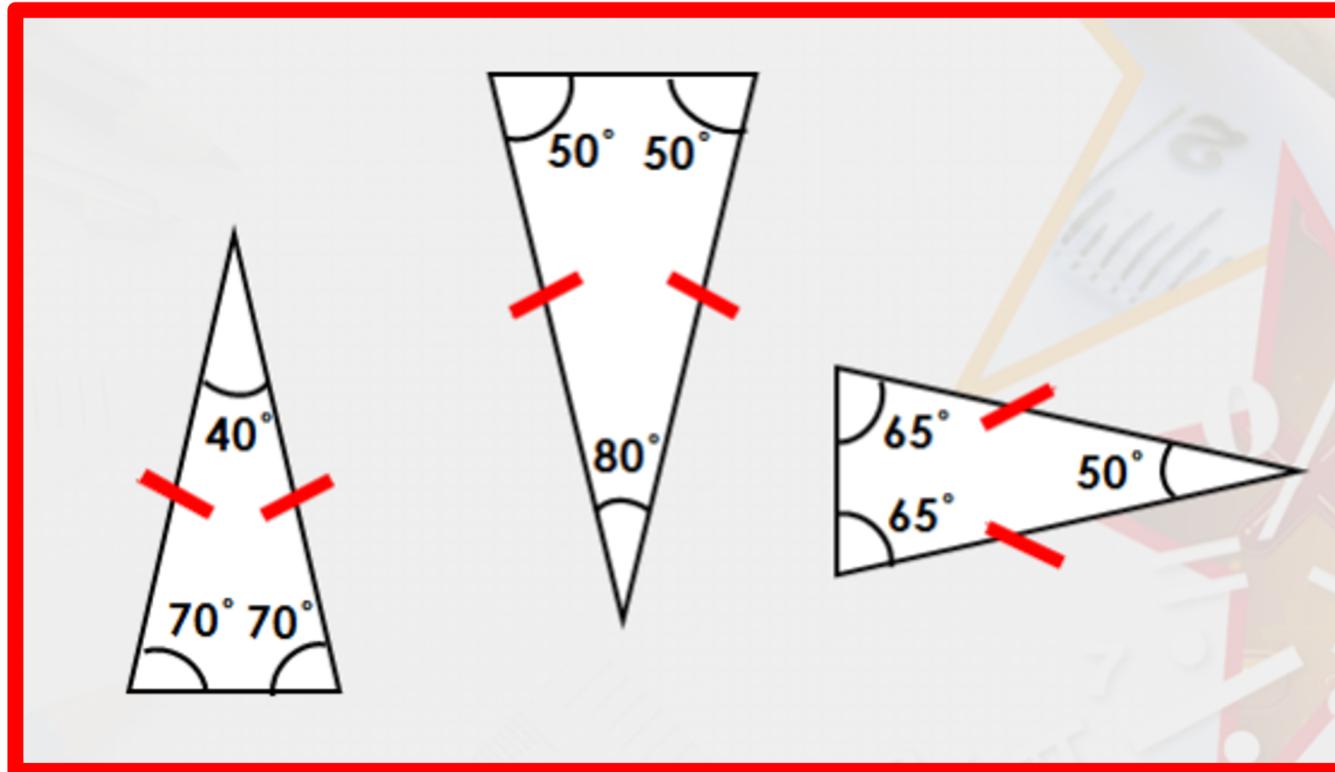
Identifying Hatch Marks

Where would you draw the hatch marks on these three isosceles triangles to indicate the equal lengths?



Identifying Hatch Marks

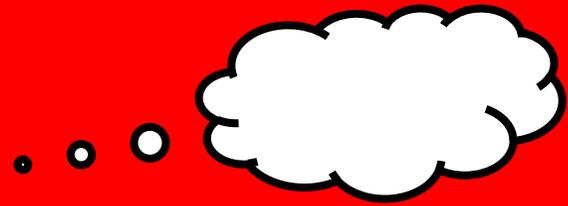
ANSWERS



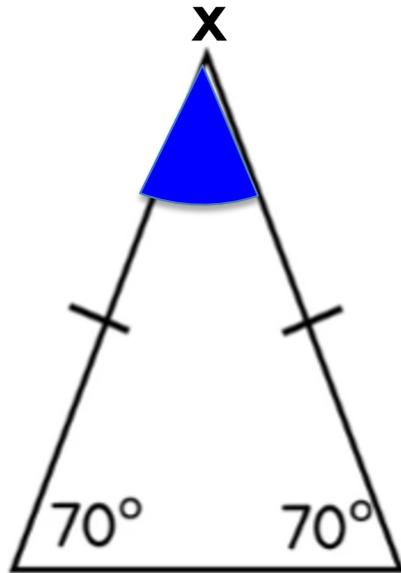
Isosceles triangles

A triangle with two equal sides.

The angles opposite the equal sides are also **equal**.



Identifying Equal Sides

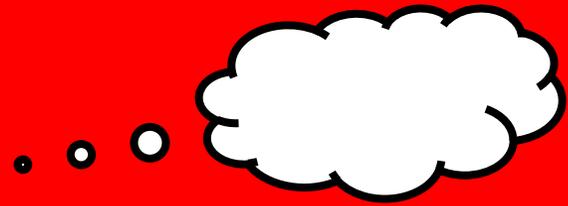


This is an isosceles triangle.

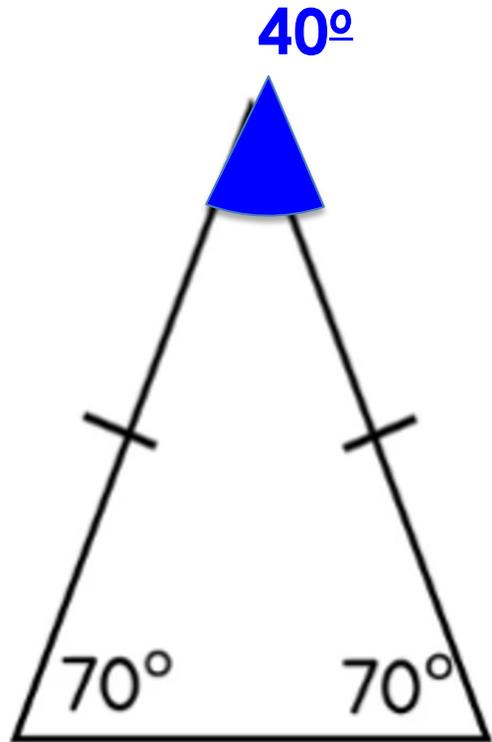
Isosceles triangles have 2 equal sides
and 2 equal angles

Can you remember how many degrees in a triangle?

If you add the two angles at the bottom, which totals 140° , what do you think the value of angle x is?



Identifying Equal Sides



Step 1- Addition : $70^\circ + 70^\circ = 140^\circ$

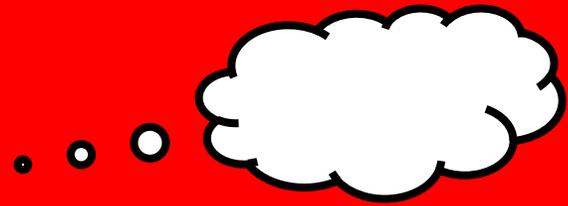
Step 2-Subtraction: $180^\circ - 140^\circ = 40^\circ$

CHECK = $70^\circ + 70^\circ + 40^\circ = 180^\circ$

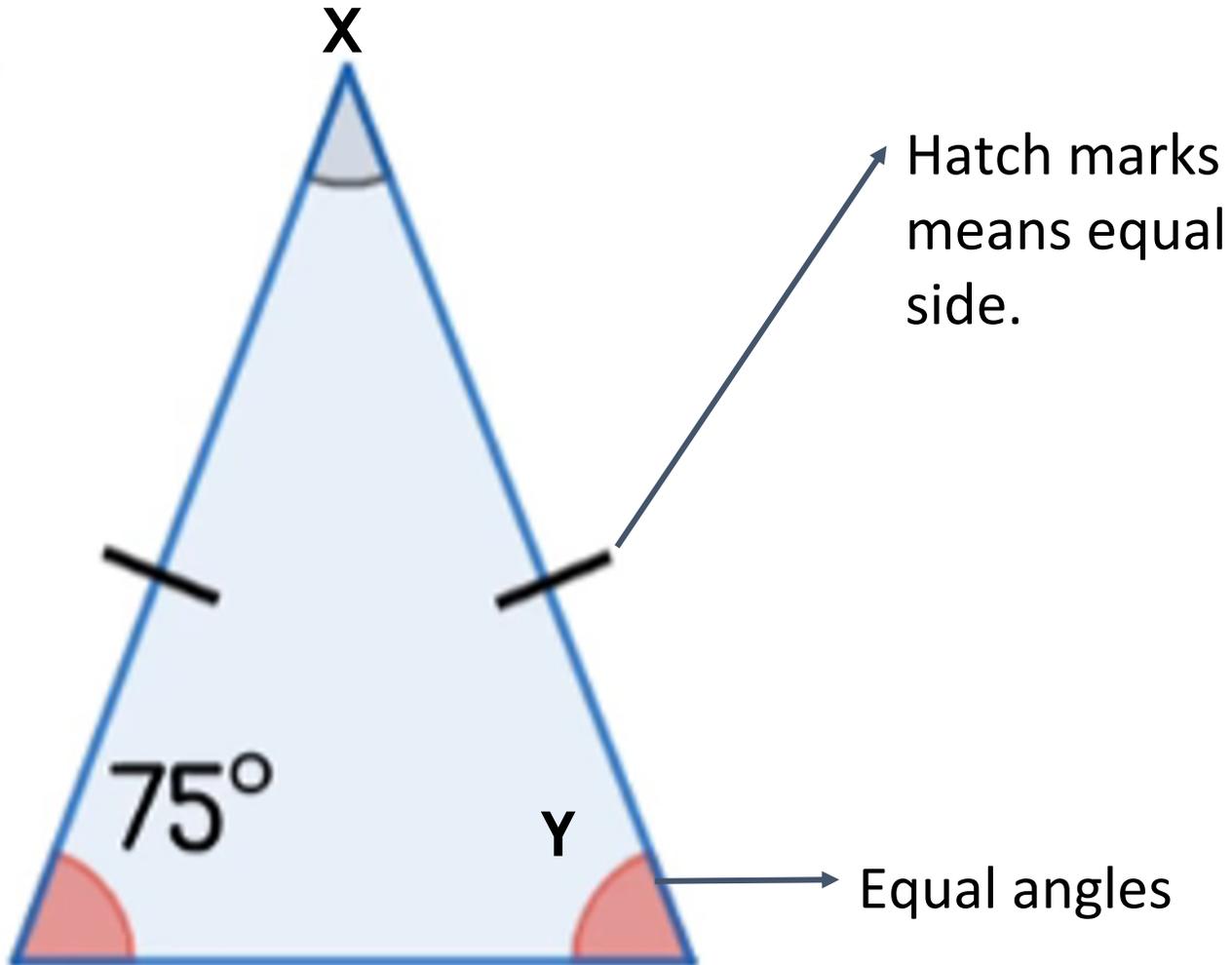
Can you remember how many degrees in a triangle? 180°

If you add the two angles at the bottom, which totals 140° , what do you think the value of angle x is?

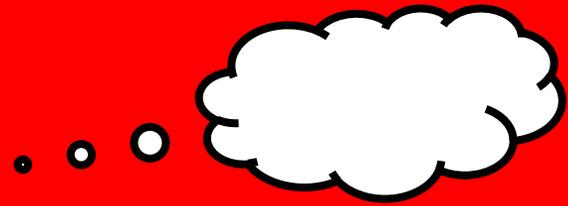
40°



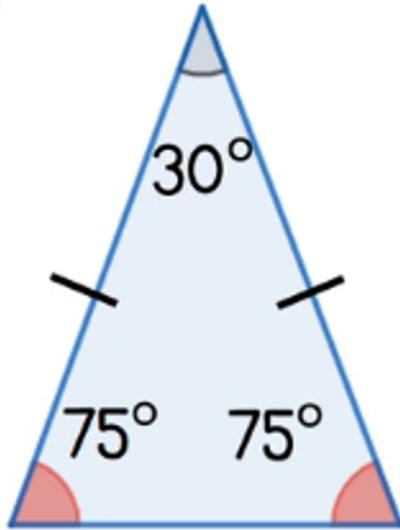
Identifying Equal Sides



How can we use this information to calculate the other angles?



Identifying Equal Sides



Step 1- Addition: $75^\circ + 75^\circ = 150^\circ$

Step 2-Subtraction: $180^\circ - 150^\circ = 30^\circ$

CHECK= $75^\circ + 75^\circ + 30^\circ = 180^\circ$

EXPLANATION

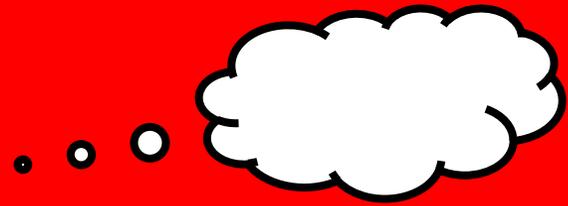
We know that an isosceles triangle has two equal angles.

So Y angle must also be 75 degrees.

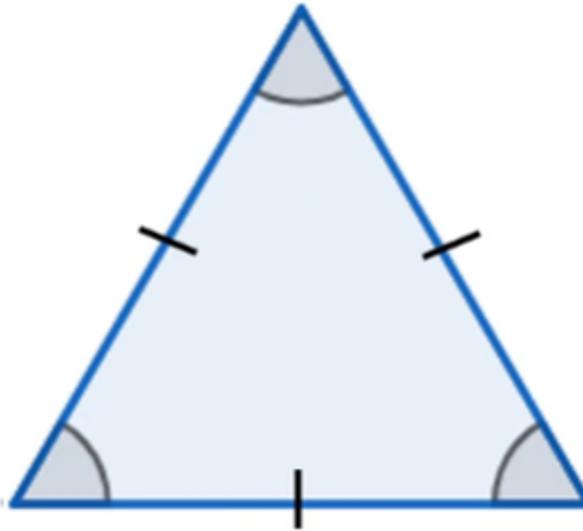
We need to add 75 degrees and 75 degrees together.
The total is 150 degrees.

We also know that all the angles in a triangle must total 180 degrees.

So we subtract 150 degrees from 180 degrees to find the unknown angle. Therefore, angle X is 30 degrees.



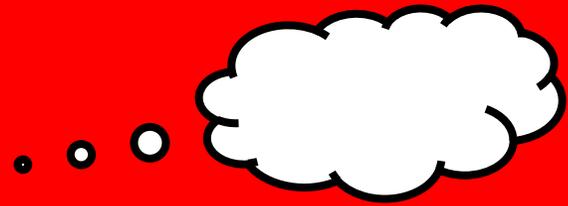
Identifying Equal Sides



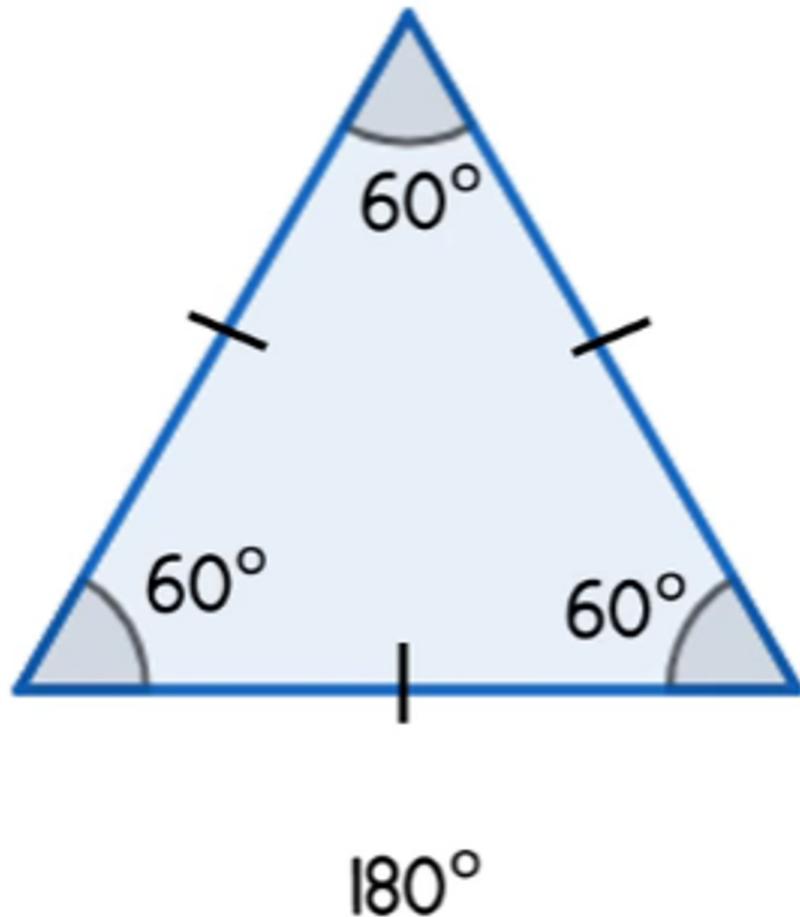
What type of shape is this?

What does the hash marks and angles suggest about this shape?

What do you think is the value of each angle?



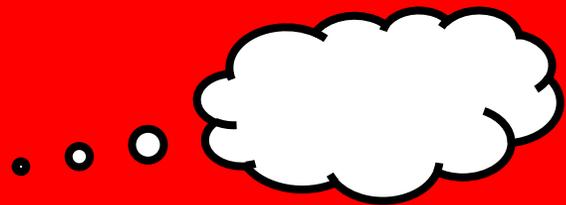
Identifying Equal Sides



Equilateral: "equal"-lateral (lateral means side) so they have all equal sides.

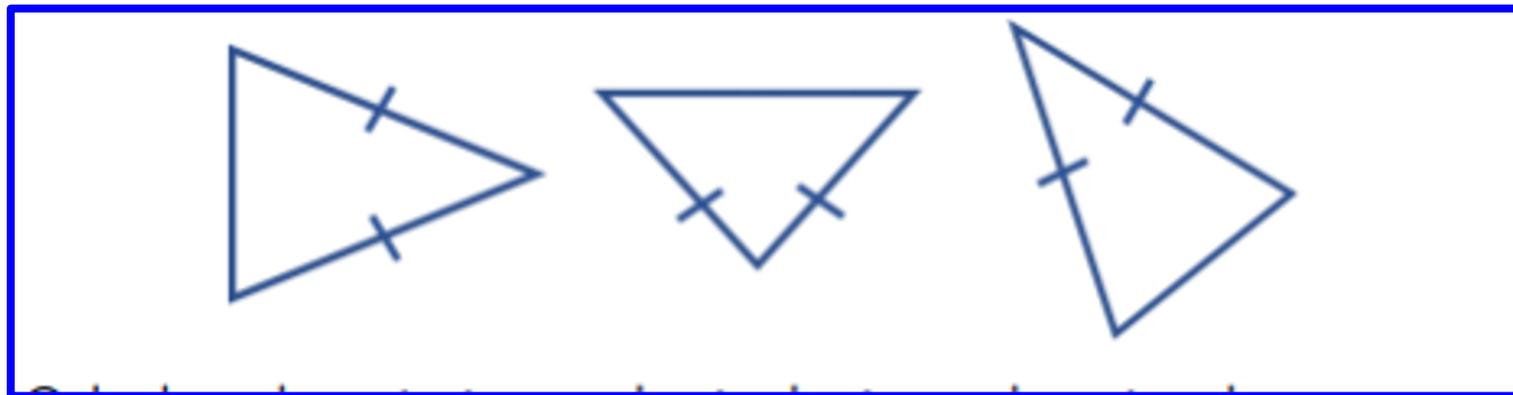
An equilateral triangle has three equal sides and three equal angles, always 60 degrees.

If you add all the angles together, what is the total?



EVALUATION

1. The angles in a triangle add up to how many degrees?
2. How can we identify sides which are the same length on a triangle? What is the name of the symbol?
3. If you know one angle in an isosceles triangle, what else do you know?



Once you have finished turn this assignment in on Google Classroom.



Task

All	All of you must complete the fluency section.
Most	Most of you will complete the fluency and reasoning sections.
Some	Some of you will complete the fluency, reasoning, and problem-solving sections.

Try your best – it is all we can ask for! 😊

This video may help if you are stuck at any point:
<https://corbettmaths.com/2012/08/10/types-of-angle/>

Week 2_Maths_Lesson 1

Lesson 1
 Learning to find angles in a triangle (special cases)

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Fluency

Key vocabulary: Angles, triangle, degrees, isosceles, scalene, equilateral, interior, hash marks and right angle.	Your answer
<p>Fill in the missing gaps</p> <p>There are _____ interior angles in a triangle. All angles in a triangle have a total sum of _____ degrees.</p>	
<p>What type of triangle is this? Explain how you know.</p> 	
<p>What type of triangle is this? Explain how you know.</p> 	
<p>What type of triangle is this? Explain how you know.</p> 	

Week 2_Maths_Lesson 1

Do fill in the missing details about this triangle.

This is an _____ triangle.
 The missing angle is _____ degrees.



Do. Match each triangle to the best description.

1. This triangle has a missing 90 degree angle marking.
 2. This triangle is missing equal length side markings.
 3. This triangle is missing a 90 degree angle marking.



Do. Fill in the missing details about this triangle.

This triangle has _____ equal sides.
 The missing angles are both _____ degrees.
 $180 \div 3 = \dots = \dots$



Do. Fill in the missing details about this triangle.

The missing angles are both _____ degrees.
 $180 \div 2 = \dots = \dots$
 $2 \times \dots = \dots = 180$



Match the description to the lettered shape.

1 = _____
 2 = _____
 3 = _____

Week 2_Maths_Lesson 1

Problem Solving

Key vocabulary: Angles, triangle, degrees, isosceles, scalene, equilateral, interior, hash marks and right angle.

An isosceles triangle has one angle of 100° .
 Write down the possible size of the other two angles in the triangle.

Pair 1 _____ and _____ degrees

Do. Aha! says:

I have drawn an isosceles triangle. The angles are 40 degrees, 40 degrees and 80 degrees. I have 2 equal length sides and one double side.

Could she be correct? Explain why or why not.

Extension

Key vocabulary: Angles, degrees, isosceles, scalene, equilateral, interior, hash marks and right angle.

Write down the size of the angles in this triangle.



Explain how Jess would know the angles in this triangle.