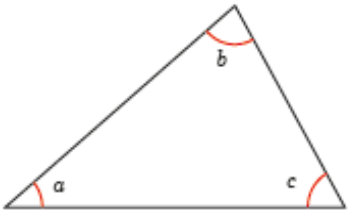
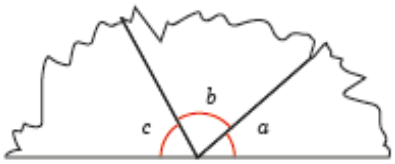
This week we are recapping on 2D and 3D shapes.

LO: To calculate angles in a triangle (bronze)

1 Here is a triangle.



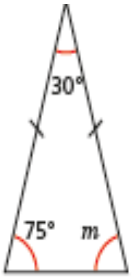
a) The three vertices are torn off the triangle and arranged on a straight line.



What is the sum of the three angles? **180**

How do you know? **180 = a straight line**

2 Here is a triangle.



a) What type of triangle is it? **isosceles**

How do you know? **The marks show that two sides are equal**

b) Work out the size of angle m. **75**

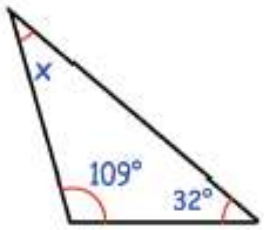
c) What do you notice?

d) Complete the sentence to describe the angles in an isosceles triangle.

In an isosceles triangle **The two bottom angles are equal**

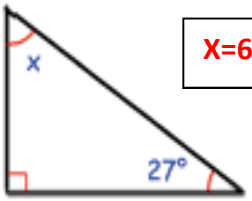
3 Calculate the size of angle x in this diagram

X=39



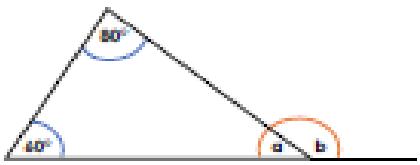
4 Calculate the size of angle x in this diagram

X=63



5 Kelly says:

> It is impossible for me to calculate all of the missing angles.

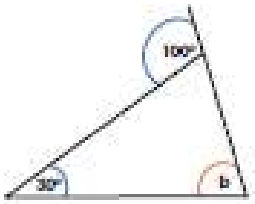


Is Kelly correct? Explain why.

No, because…

6 Saskia thinks that angle b measures 60°. Oscar thinks that angle b measures 70°.

Who is correct? Explain why.



Oscar, because 180-100=80, 180-80-30 =70

This week we are recapping on 2D and 3D shapes.

LO: To calculate angles in a triangle (silver)

1 Work out the sizes of the unknown angles.

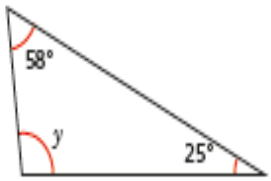
Give reasons for your answers.

a)

$x =$ **41** because _____

_____

b)



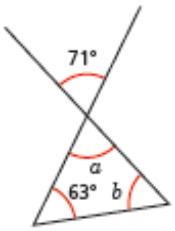
$y =$ **98** because _____

_____

2 Work out the sizes of the unknown angles.

Give reasons for each stage of your working.

a)



$a =$ **71** because _____

_____

$b =$ **46** because _____

_____

b)

$d =$ **43** because _____

_____

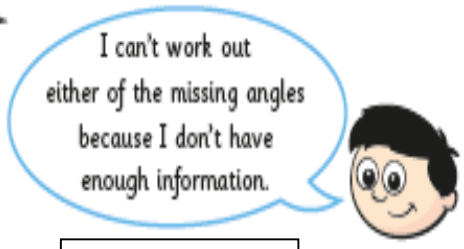
$e =$ **43** because _____

_____

$f =$ **94** because _____

_____

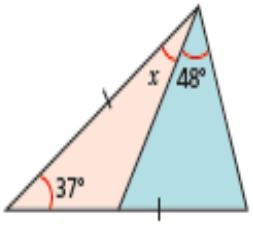
3 Dexter is working out the unknown angles in triangles.



Do you agree with Dexter? **No, because…**

Explain your answer.

4 Work out the size of angle x.



$x =$ **23.5**

5 Jamie draws a triangle.

He says, ***'Two of the three angles in my triangle are obtuse'.***

Explain why Jamie **cannot** be correct.

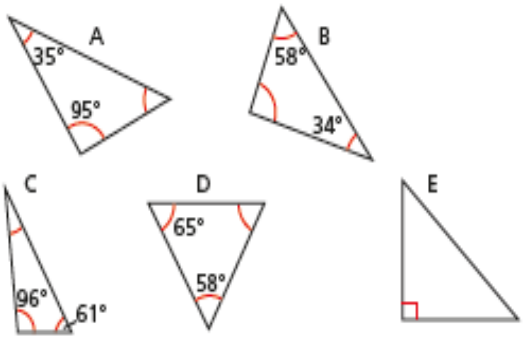
Because obtuse angles are greater than 90 degrees

90 + 90 = 180 and all three angles in a triangle must total 180 degrees

This week we are recapping on 2D and 3D shapes.

LO: To calculate angles in a triangle (gold)

1 Sort the triangles into the table.



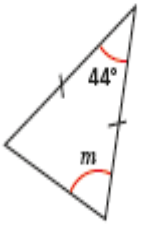
0 acute angles	1 acute angle	2 acute angles	3 acute angles
		A C E	B D

Are any of the columns empty? Why?

0 + 1, because the total angles have to be 180 so at least 2 angles need to be less than 90 degrees (acute)

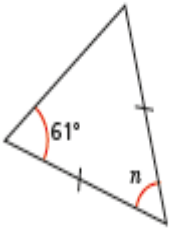
2 Work out the sizes of the unknown angles.

a)



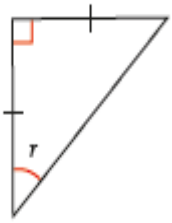
$m =$ **68**

b)



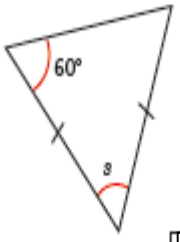
$n =$ **58**

c)



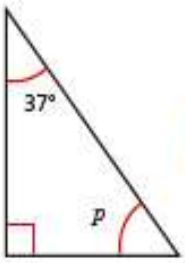
$r =$ **45**

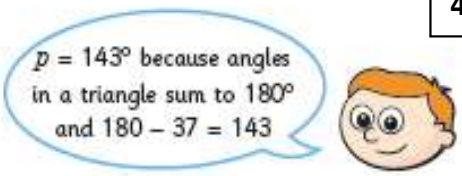
d)



$s =$ **60**

3



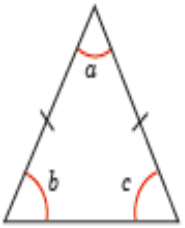


Do you agree with Ron? **No, because...**

Explain your answer.

4 Angle b is twice the size of angle a.

Work out the size of angle c.



72

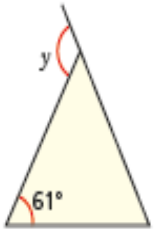
5

Work out the size of angle x.

$x =$ **23.5**

6 Here is an isosceles triangle.

Find two possible sizes of angle y.



$y =$ **119** or **122**