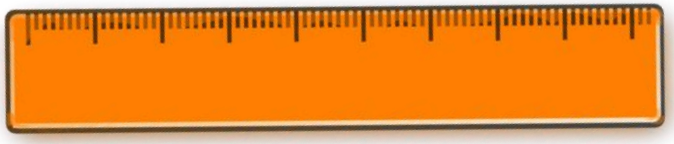
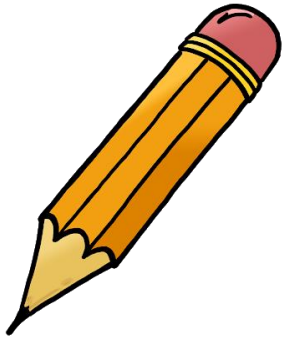
Year 6

Tuesday 14nd July 2020

Maths

LO: Angles in a triangle – missing angles.





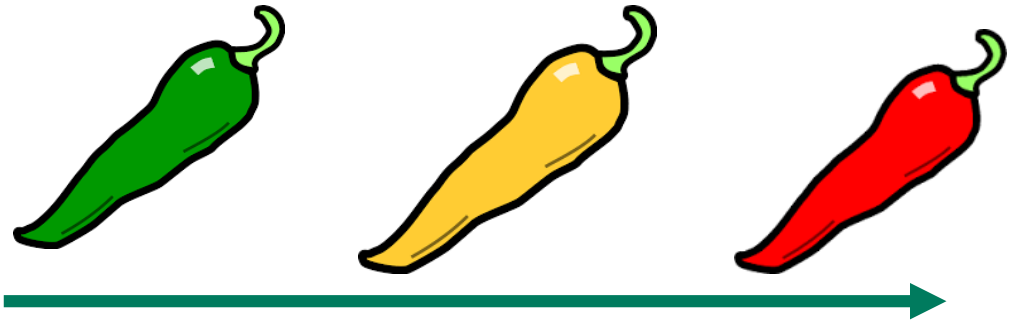
The video of this lesson is available here – Summer Term – Week 11 - lesson 2

This link works on the printable version and is available above the PowerPoint.

You will need to watch this video to learn the skills you need in this lesson.

The independent work continues on the next two slides. There are 5 questions and 1 extension.

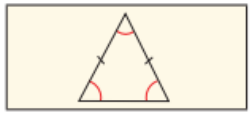
(Espanol – cinco preguntas y una extensión)

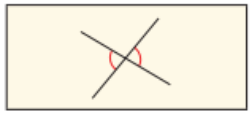


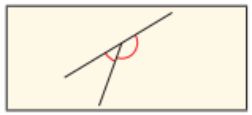
The chili suggests a good starting point depending on how confident you are feeling.
If you have time you can complete all the independent work!

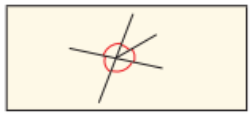
Angles in a triangle – missing angles

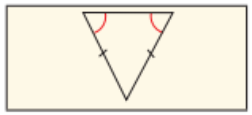
1 Match each diagram to the correct rule.









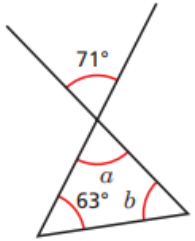


Angles on a straight line sum to 180°
Angles around a point sum to 360°
Angles in a triangle sum to 180°
In an isosceles triangle, two angles are equal
Vertically opposite angles are equal

2 Work out the sizes of the unknown angles.

Give reasons for each stage of your working.

a)



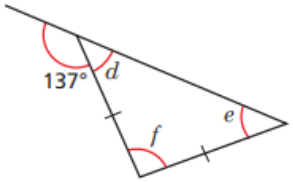
$a =$ ☐ because _____

_____

$b =$ ☐ because _____

_____

b)



$d =$ ☐ because _____

_____

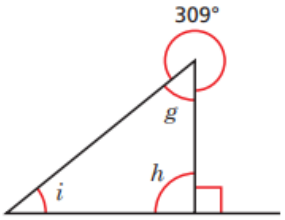
$e =$ ☐ because _____

_____

$f =$ ☐ because _____

_____

c)



$g =$ ☐ because _____

_____

$h =$ ☐ because _____

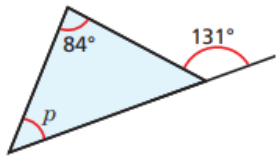
_____

$i =$ ☐ because _____

_____

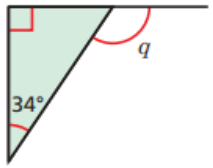
3 Work out the sizes of the angles marked with letters.

a)



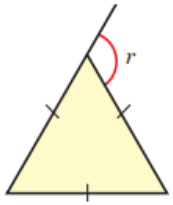
$p =$ ☐

b)



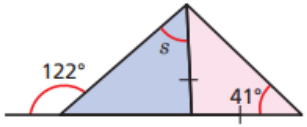
$q =$ ☐

c)



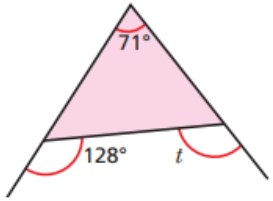
$r =$ ☐

d)



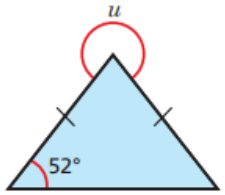
$s =$ ☐

e)



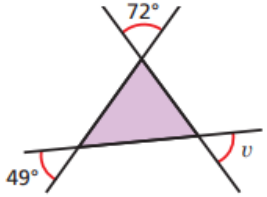
$t =$ ☐

f)



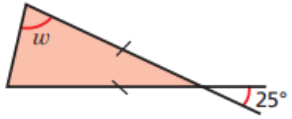
$u =$ ☐

g)



$v =$ ☐

h)

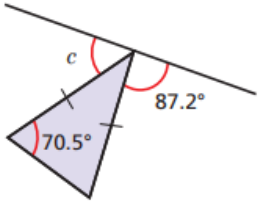


$w =$ ☐

Talk about your reasons with a partner.

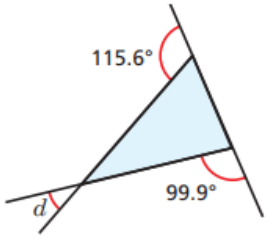
4 Work out the sizes of the unknown angles.

a)



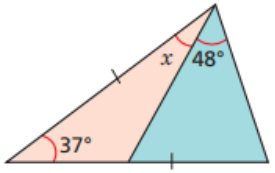
$c =$ ☐

b)



$d =$ ☐

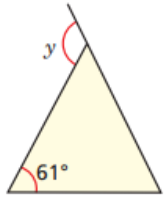
5 Work out the size of angle x.



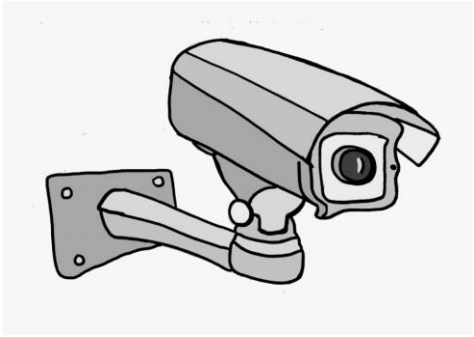
$x =$ ☐

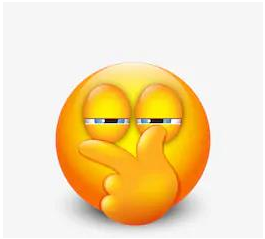
Ext: Here is an isosceles triangle.

Find two possible sizes of angle y.

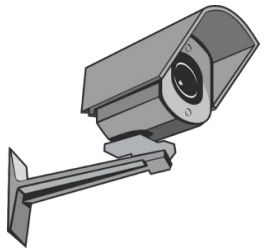


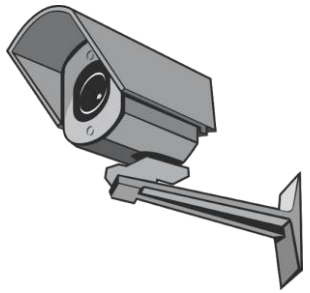
$y =$ ☐ or ☐





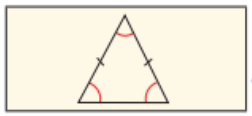
The next two slides contain the answers should you wish to check you work and reflect on what you understand.

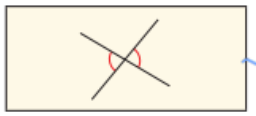


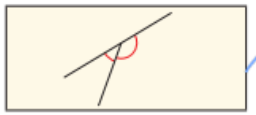


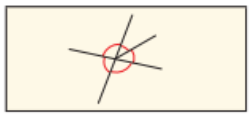
Angles in a triangle – missing angles

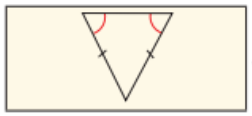
1 Match each diagram to the correct rule.









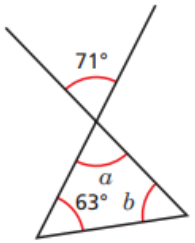


- Angles on a straight line sum to 180°
- Angles around a point sum to 360°
- Angles in a triangle sum to 180°
- In an isosceles triangle, two angles are equal
- Vertically opposite angles are equal

2 Work out the sizes of the unknown angles.

Give reasons for each stage of your working.

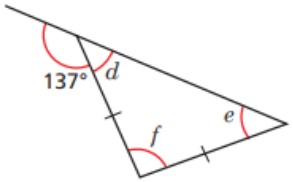
a)



a = 71° because vertically opposite angles are equal

b = 46° because angles in a triangle sum to 180°

b)

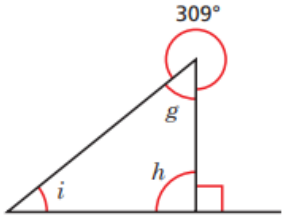


d = 43° because angles on a straight line sum to 180°

e = 43° because in an isosceles triangle two angles are equal.

f = 94° because angles in a triangle sum to 180°

c)



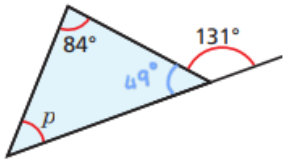
g = 51° because angles around a point sum to 360°

h = 90° because angles on a straight line sum to 180°

i = 39° because angles in a triangle sum to 180°

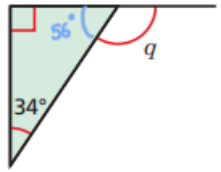
3 Work out the sizes of the angles marked with letters.

a)



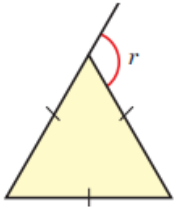
$p =$ 47°

b)



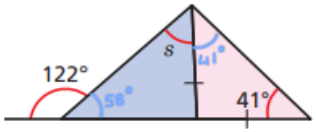
$q =$ 124°

c)



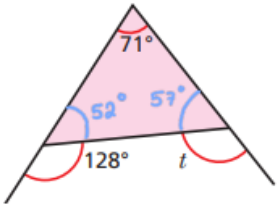
$r =$ 120°

d)



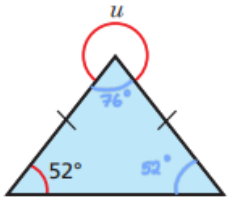
$s =$ 40°

e)



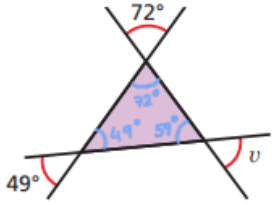
$t =$ 123°

f)



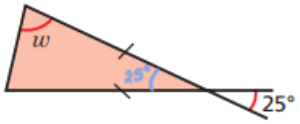
$u =$ 284°

g)



$v =$ 59°

h)

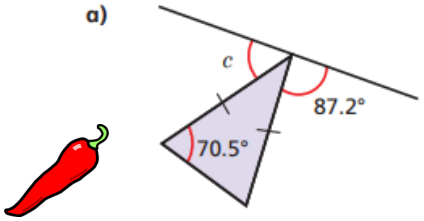


$w =$ 77.5°

Talk about your reasons with a partner.

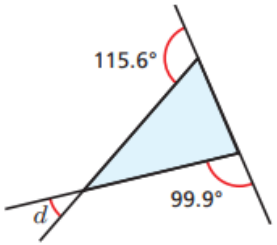
4 Work out the sizes of the unknown angles.

a)



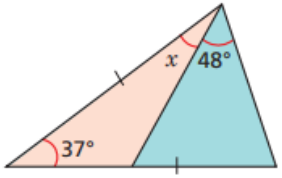
$c =$ 53.8°

b)



$d =$ 35.5°

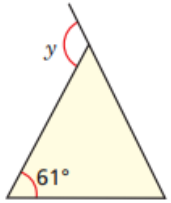
5 Work out the size of angle x.



$x =$ 23.5°

Ext: Here is an isosceles triangle.

Find two possible sizes of angle y.



$y =$ 122° or 120.5°