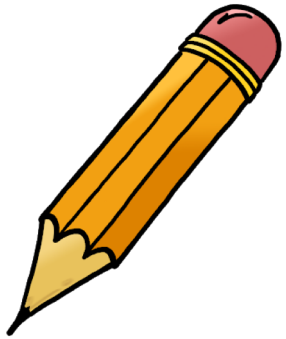
Year 6

Wednesday 15th July 2020

Maths

LO: Angles in special quadrilaterals



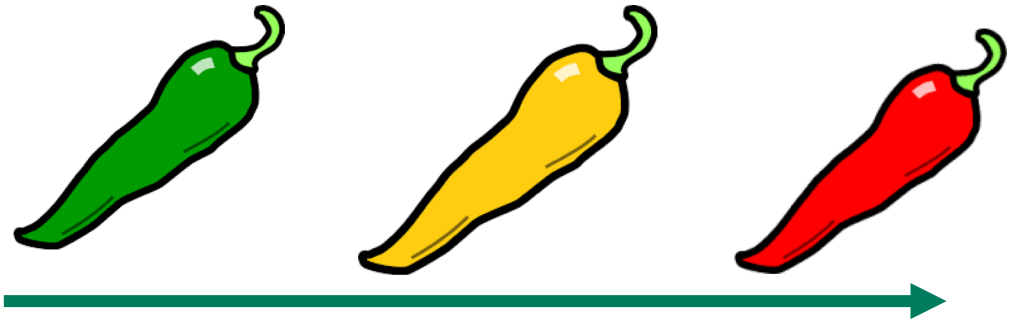
The video of this lesson is available here – Summer Term – Week 10 - lesson 3

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 6 questions and 1 extension.

(Espanol - seis preguntas y una extensión)

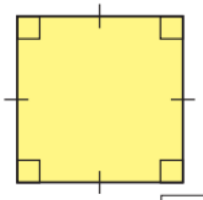


The chili suggests a good starting point depending on how confident you are feeling.
If you have time you can complete all the independent work!

Angles in special quadrilaterals

1 Work out the sum of the angles in each shape.

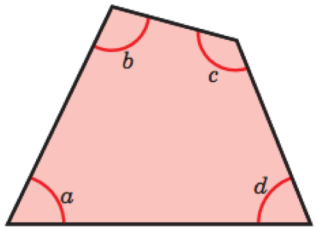
a)

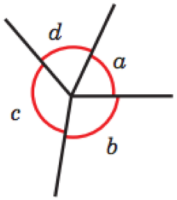


b)

What do you notice?

2 The diagrams show the four vertices of a quadrilateral arranged around a point.





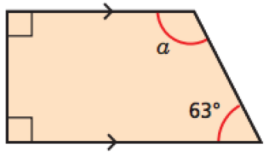
What do the diagrams illustrate about the sum of the angles in a quadrilateral?

Complete the sentence.

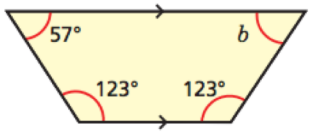
Angles in a quadrilateral _____

3 Work out the size of the unknown angle in each trapezium.

a)



b)

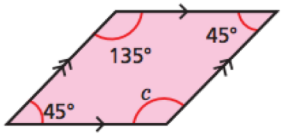


$a =$ ☐ $b =$ ☐

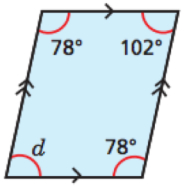
c) What is the same and what is different about the trapeziums?

4 Work out the sizes of the unknown angles.

a)



b)



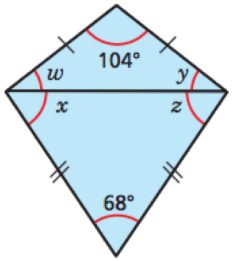
$c =$ ☐ $d =$ ☐

c) What do you notice about opposite angles in a parallelogram?

_____

5 Two isosceles triangles are joined to form a kite.

a) Work out the sizes of the unknown angles.



$w =$ ☐ $y =$ ☐ $x =$ ☐ $z =$ ☐

b) Work out $w + x$.

☐

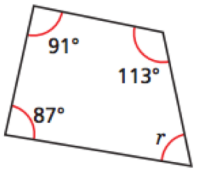
c) Work out $y + z$.

☐

What do you notice? Talk about it with a partner.

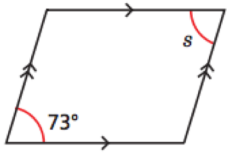
6 Work out the sizes of the unknown angles.

a)



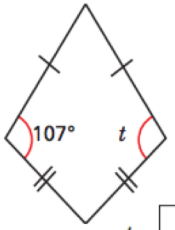
$r =$ ☐

b)



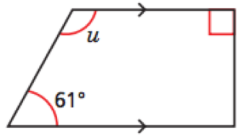
$s =$ ☐

c)



$t =$ ☐

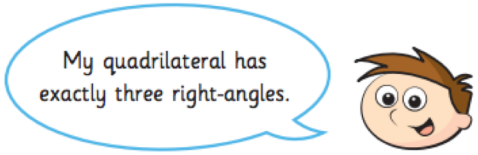
d)



$u =$ ☐

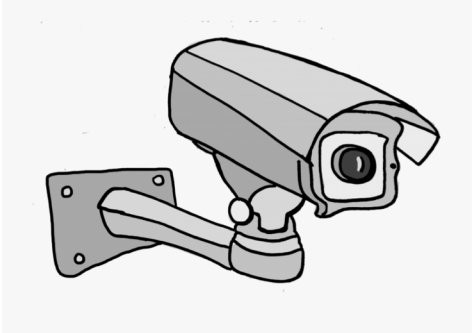
Compare your reasoning with a partner.

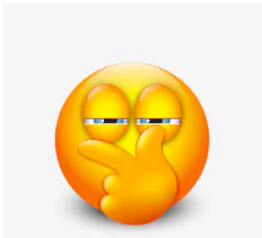
Ext: Teddy is drawing a quadrilateral.



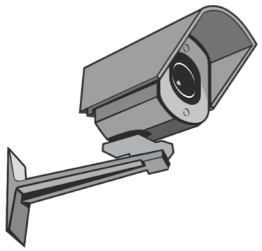
Is Teddy's quadrilateral possible? _____

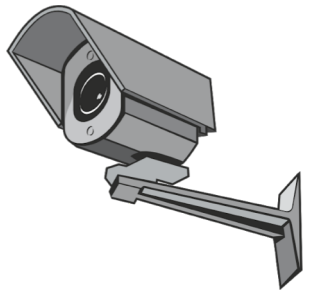
Explain your answer.





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

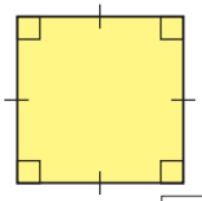




Angles in special quadrilaterals

1 Work out the sum of the angles in each shape.

a)



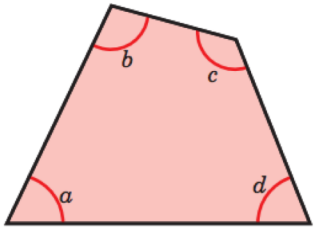
360°

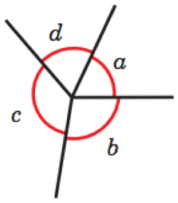
b)

360°

What do you notice?

2 The diagrams show the four vertices of a quadrilateral arranged around a point.





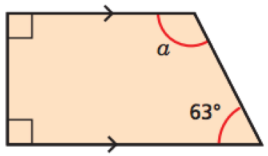
What do the diagrams illustrate about the sum of the angles in a quadrilateral?

Complete the sentence.

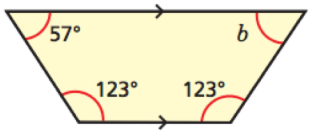
Angles in a quadrilateral sum to 360°

3 Work out the size of the unknown angle in each trapezium.

a)



b)

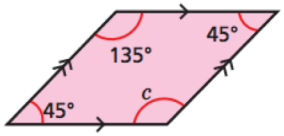


$a =$ 117° $b =$ 57°

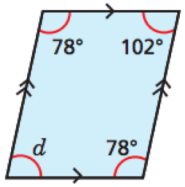
c) What is the same and what is different about the trapeziums?

4 Work out the sizes of the unknown angles.

a)



b)



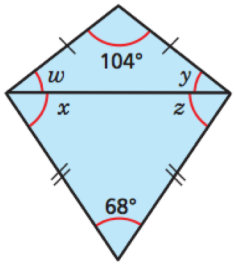
$c =$ 135° $d =$ 102°

c) What do you notice about opposite angles in a parallelogram?

They are equal.

5 Two isosceles triangles are joined to form a kite.

a) Work out the sizes of the unknown angles.



w = 38° y = 38° x = 56° z = 56°

b) Work out $w + x$.

94°

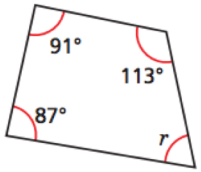
c) Work out $y + z$.

94°

What do you notice? Talk about it with a partner.

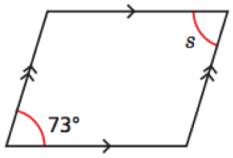
6 Work out the sizes of the unknown angles.

a)



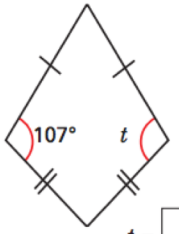
r = 69°

b)



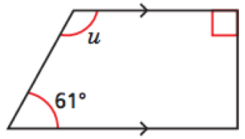
s = 73°

c)



t = 107°

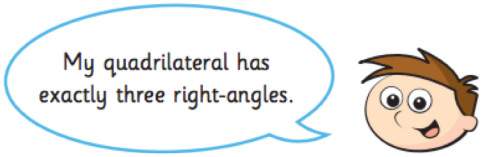
d)



u = 119°

Compare your reasoning with a partner.

Ext: Teddy is drawing a quadrilateral.



Is Teddy's quadrilateral possible? No

Explain your answer.

90 × 3 = 270 360 − 270 = 90

If three angles were right angles the fourth would also have to be a right angle.