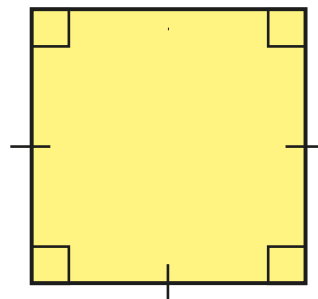


# Angles in special quadrilaterals

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

a)



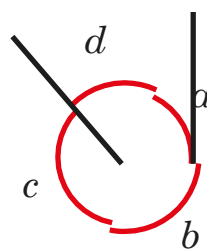
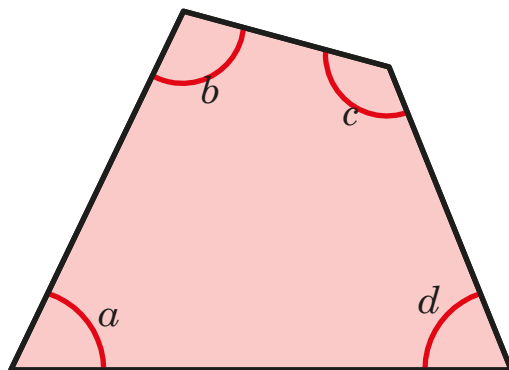
b)





What do you notice?

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



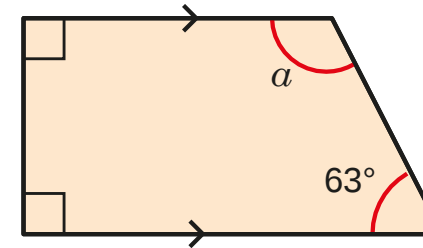
What do the diagrams illustrate about the sum of the angles in a quadrilateral?

Complete the sentence.

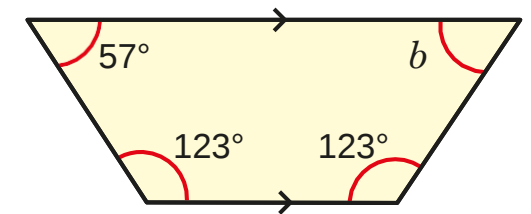
Angles in a quadrilateral \_\_\_\_\_

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

a)


 $a =$  

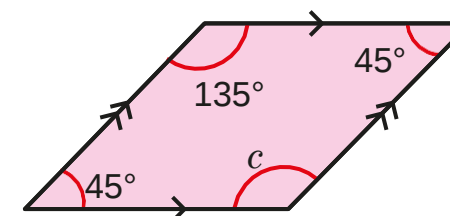
b)


 $b =$  

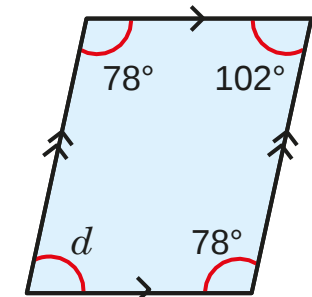
c) What is the same and what is different about the trapeziums?

**4** Work out the sizes of the unknown angles.

a)


 $c =$  

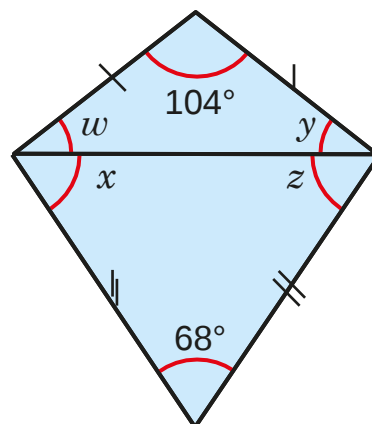
b)


 $d =$  

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.



$$w = \boxed{\phantom{000}} \quad y = \boxed{\phantom{000}} \quad x = \boxed{\phantom{000}} \quad z = \boxed{\phantom{000}}$$

- b) Work out  $w + x$ .

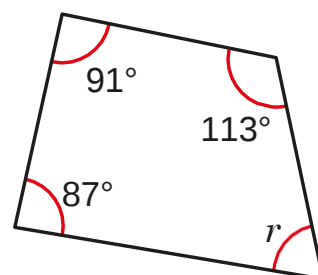
- c) Work out  $y + z$ .

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



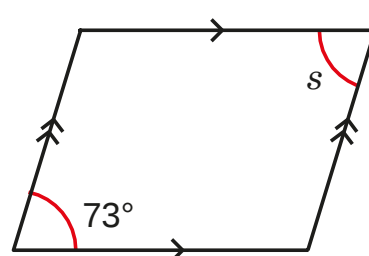
- 6** Work out the sizes of the unknown angles.

- a)



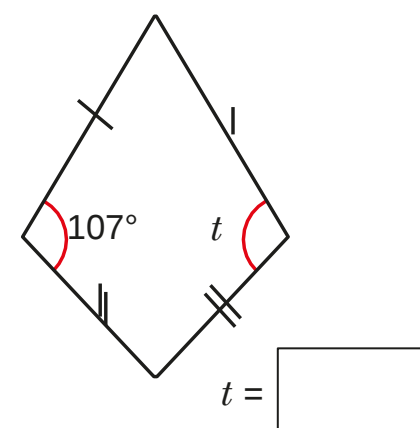
$$r = \boxed{\phantom{000}}$$

- b)

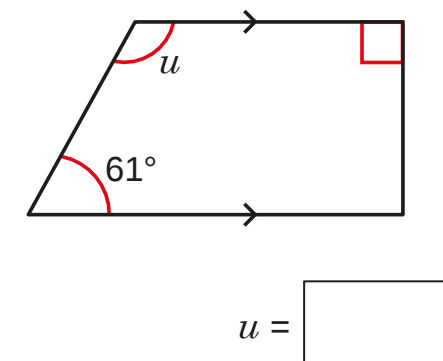


$$s = \boxed{\phantom{000}}$$

- c)



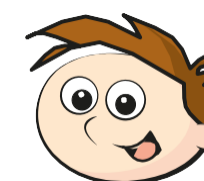
- d)



Compare your reasoning with a partner.

- 7** Teddy is drawing a quadrilateral.

My quadrilateral has exactly three right-angles.



Is Teddy's quadrilateral possible? \_\_\_\_\_

Explain your answer.

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