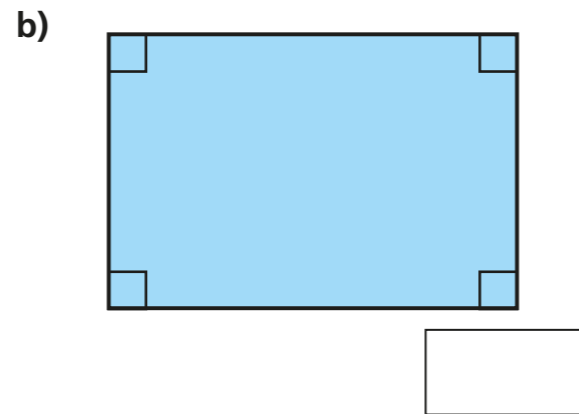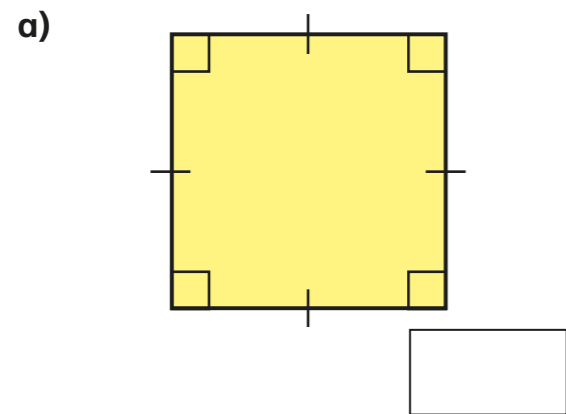# Angles in special quadrilaterals
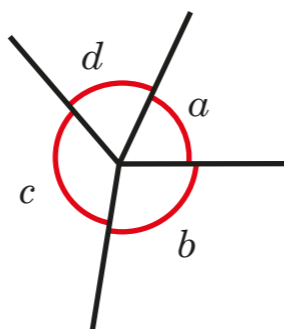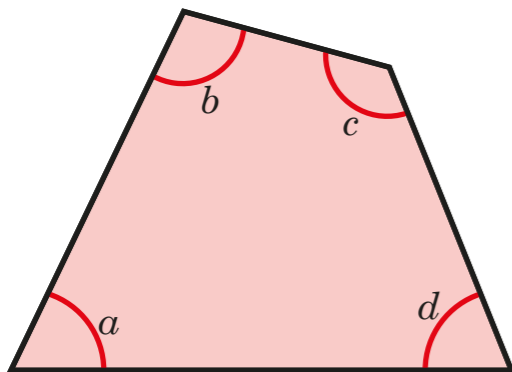
1 Work out the sum of the angles in each shape.

a)

b)

What do you notice?

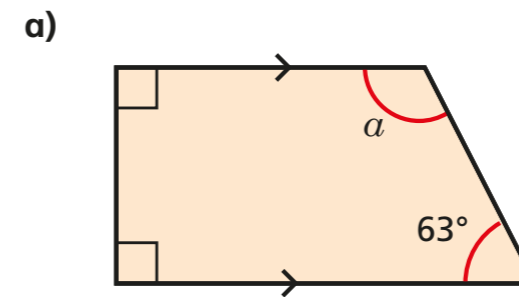**2** The diagrams show the four vertices of a quadrilateral arranged around a point.

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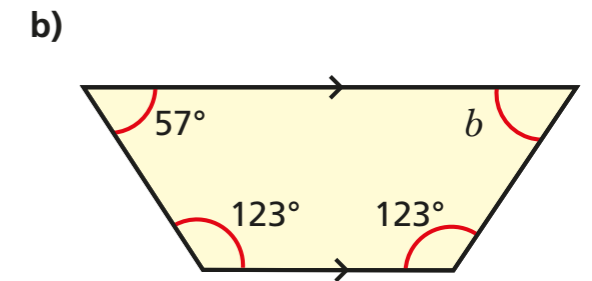
Complete the sentence.

Angles in a quadrilateral _____

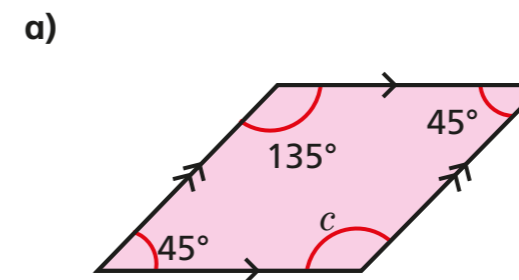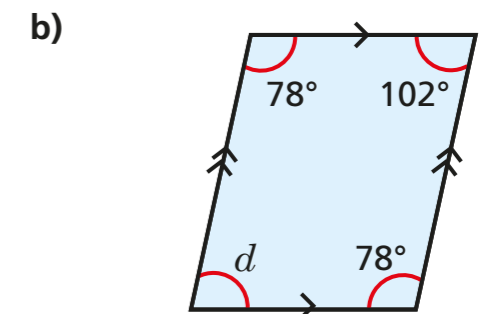**3** Work out the size of the unknown angle in each trapezium.

a)

$63°$

b)

$57°$ b

$123°$ $123°$

$a =$ ☐ $b =$ ☐

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

4 Work out the sizes of the unknown angles.

a)

$135°$ $45°$

$45°$ c

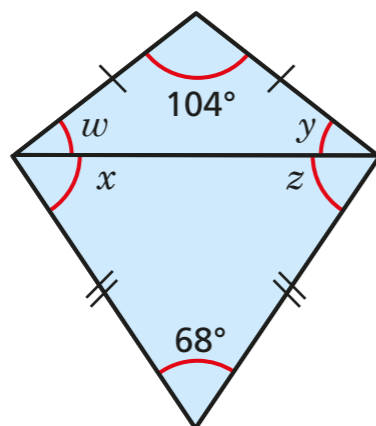**b)**

$78°$ $102°$

d $78°$

$c =$ ☐ $d =$ ☐

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

_____

5 Two isosceles triangles are joined to form a kite.

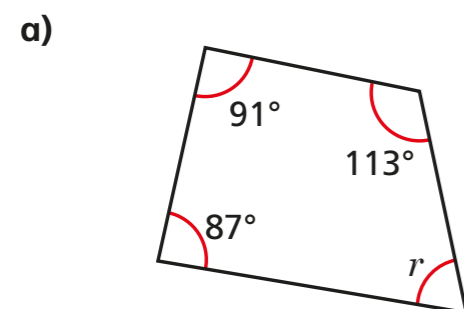**a)** Work out the sizes of the unknown angles.

$w =$ _____ $y =$ _____ $x =$ _____ $z =$ _____

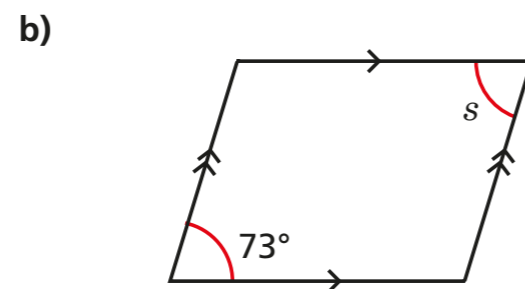**b)** Work out $w + x$.

_____

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)

b)

$r =$ _____

$s =$ _____

c)

$t =$ _____

d)

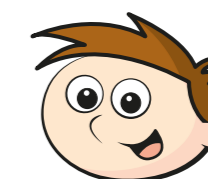$u =$ _____
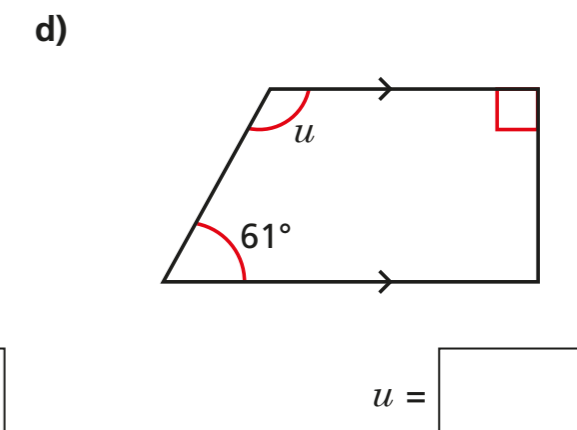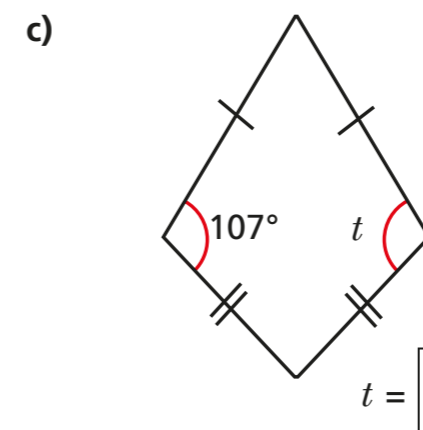
Compare your reasoning with a partner.

7 Teddy is drawing a quadrilateral.

My quadrilateral has exactly three right-angles.

Is Teddy's quadrilateral possible? _____

Explain your answer.

_____

_____