Explore relationships between similar shapes
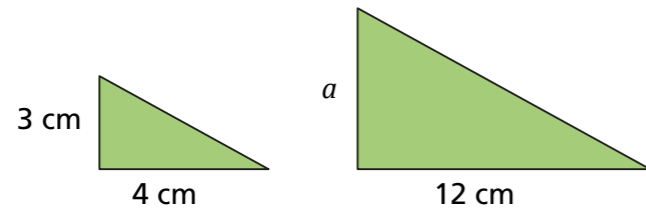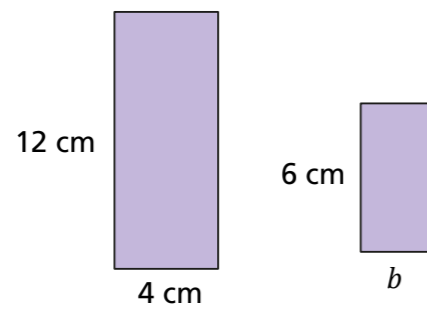
1 Work out the missing lengths in these pairs of similar shapes.
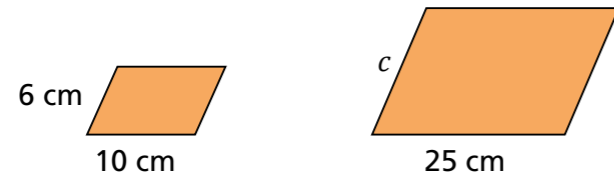
a)

3 cm
4 cm
a
12 cm

$a =$ ____

b)

12 cm
4 cm
6 cm
b

$b =$ ____

c)

6 cm
10 cm
c
25 cm

$c =$ ____

d)

d
20 cm
35 cm
70 cm
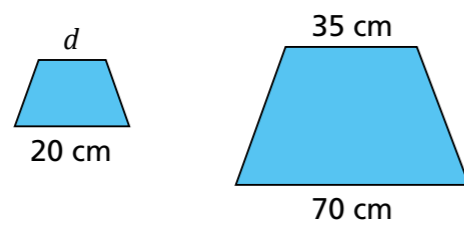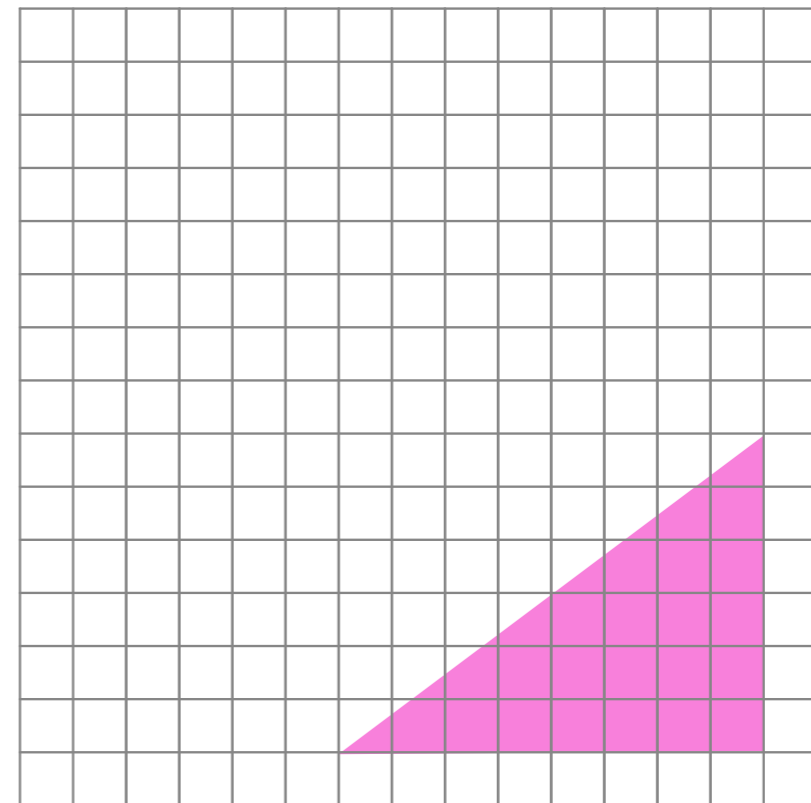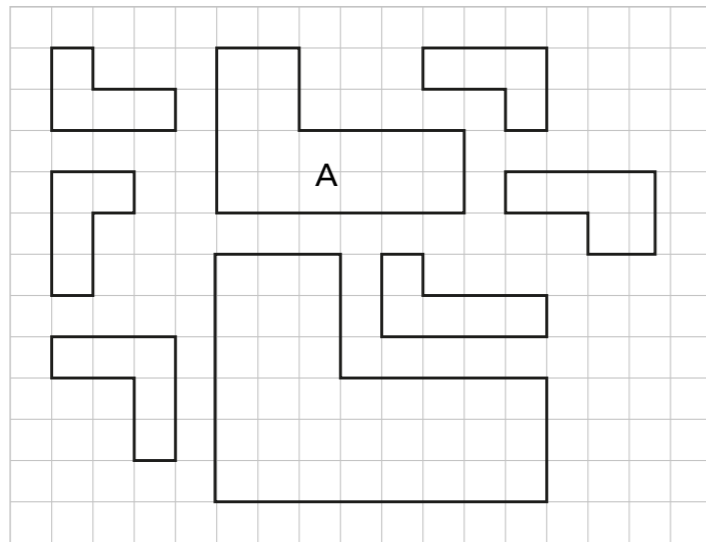
$d =$ ____

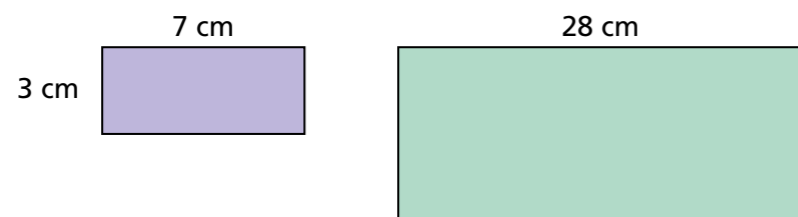**2** Draw two similar rectangles on the grid.
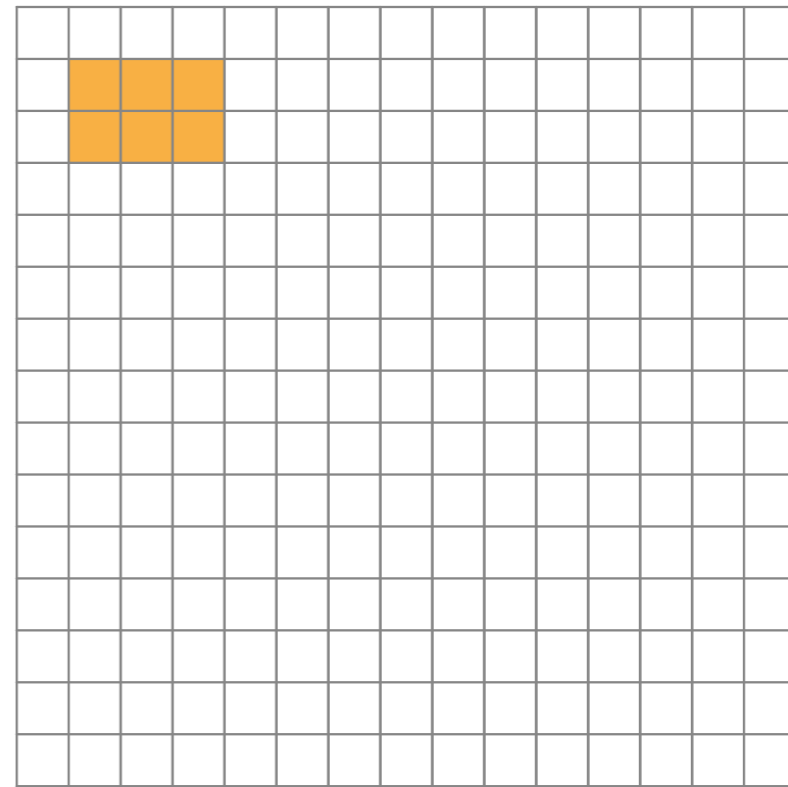
3 Draw two similar triangles on the grid.

4 Which of these shapes are similar to shape A? Tick your answers.

5 These two shapes are similar.
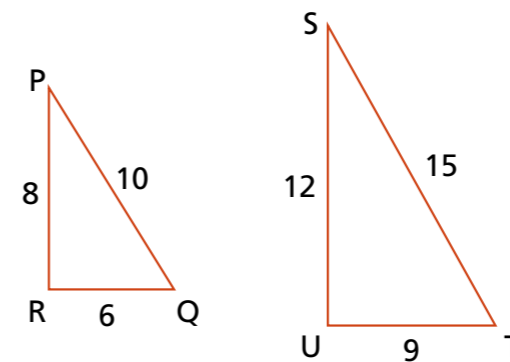
7 cm

28 cm

3 cm

a) Work out the perimeter of the smaller rectangle.

b) Work out the perimeter of the larger rectangle.

c) What do you notice about your answers in part a) and part b)?
Discuss it with a partner.

6

P

S

8 10

12 15

R 6 Q

U 9 T

a) Work out the ratios, giving your answers in the simplest form.

PR : SU ☐ : ☐

RQ : UT ☐ : ☐

PQ : ST ☐ : ☐

b) What do you notice about your answers?

c) Work out the ratios, giving your answers in the simplest form.

PR : RQ ☐ : ☐

SU : UT ☐ : ☐

d) Triangle XYZ is similar to triangle PRQ

XY = 78

Find the value of YZ.

Y

X Z