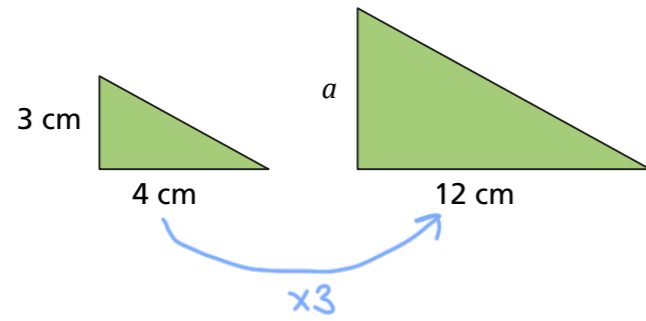


# Explore relationships between similar shapes

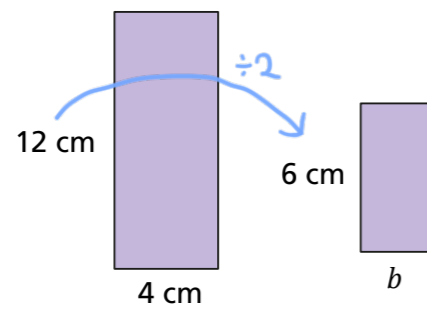
1 Work out the missing lengths in these pairs of similar shapes.

a)



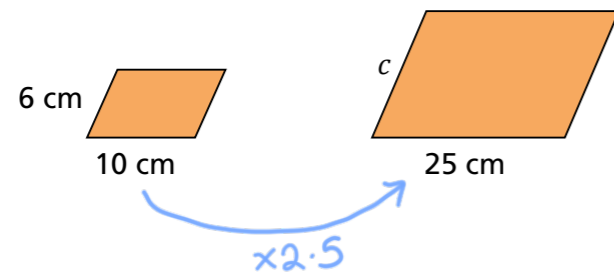
$a =$

b)



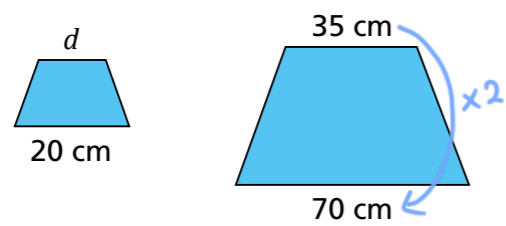
$b =$

c)



$c =$

d)



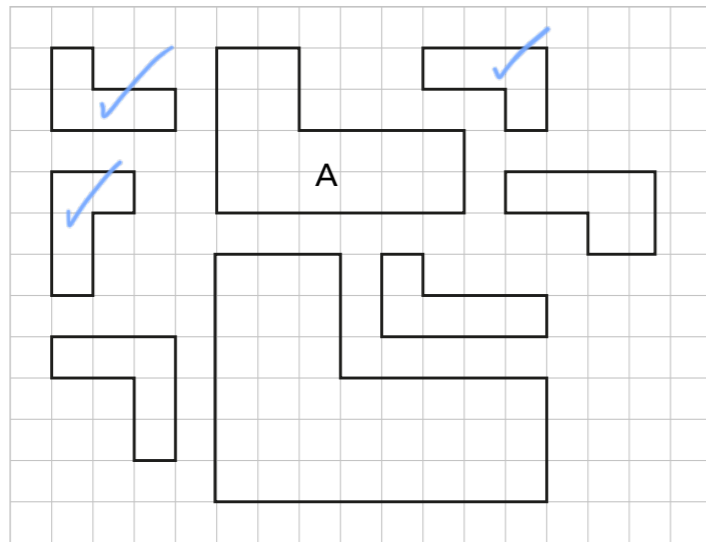
$d =$

2 Draw two similar rectangles on the grid.

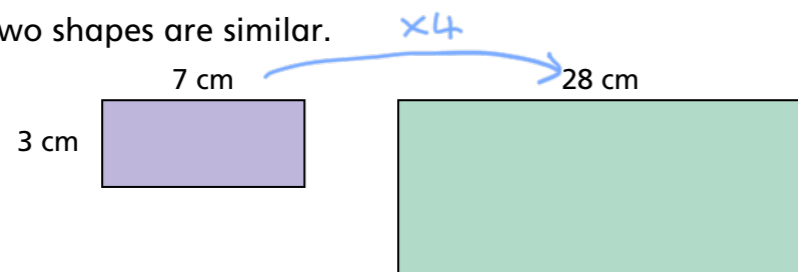
e.g.

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.



a) Work out the perimeter of the smaller rectangle.

$$3 + 7 + 3 + 7 = 20$$

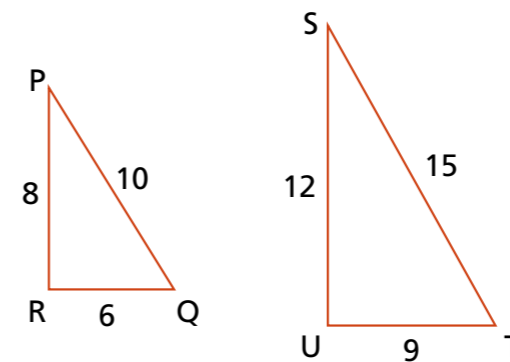
20cm

b) Work out the perimeter of the larger rectangle.

80cm

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

6



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

PR:SU  $\boxed{2} : \boxed{3}$       8:12

RQ:UT  $\boxed{2} : \boxed{3}$       6:9

PQ:ST  $\boxed{2} : \boxed{3}$       10:15

b) What do you notice about your answers?

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

PR:RQ  $\boxed{4} : \boxed{3}$       8:6

SU:UT  $\boxed{4} : \boxed{3}$       12:9

d) Triangle XYZ is similar to triangle PRQ

$XY = 78$

Find the value of YZ.

$$78 \div 8 = 9.75$$

$$9.75 \times 10 = \underline{\underline{97.5}}$$

