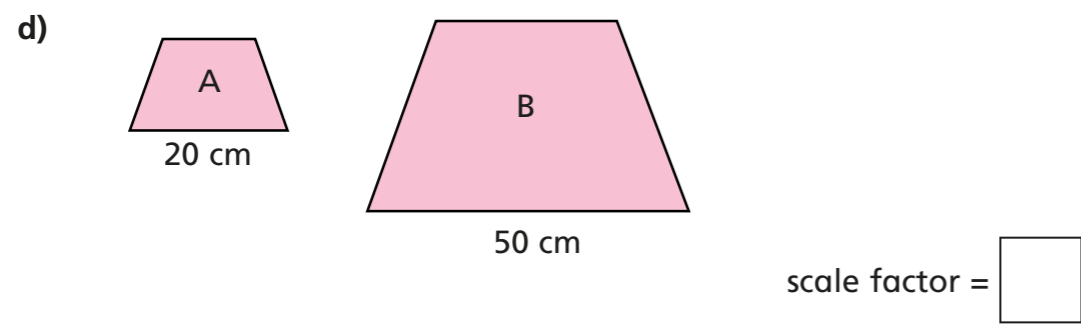
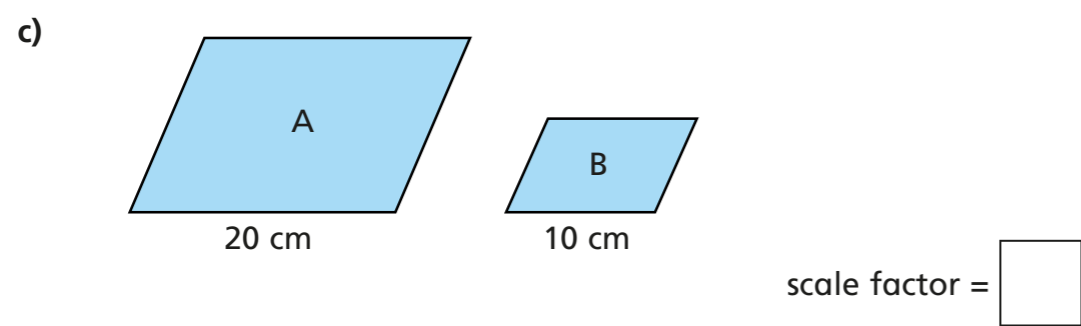
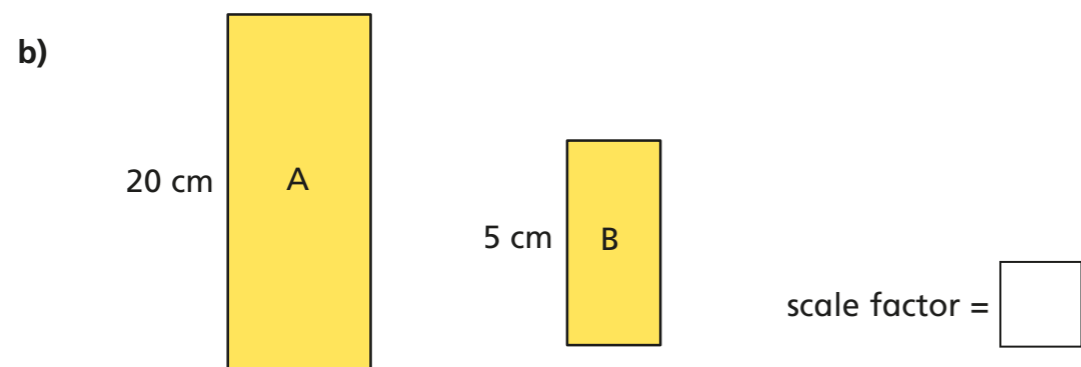
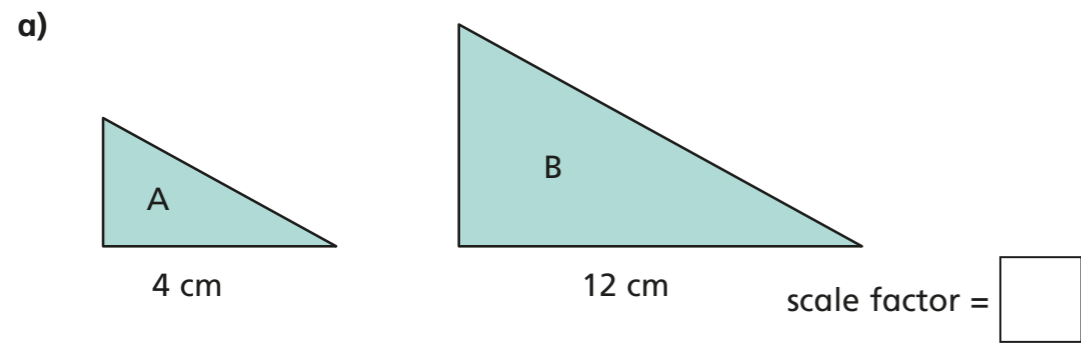


Understand scale factors as multiplicative representations

1 For each pair of similar shapes, write the scale factor from shape A to shape B.



2 A rectangle has a length of 12 cm and a width of 9 cm.
Work out the length and width of the rectangle if it is enlarged by these scale factors.

a) scale factor 3

length = width =

b) scale factor $\frac{1}{2}$

length = width =

c) scale factor 4

length = width =

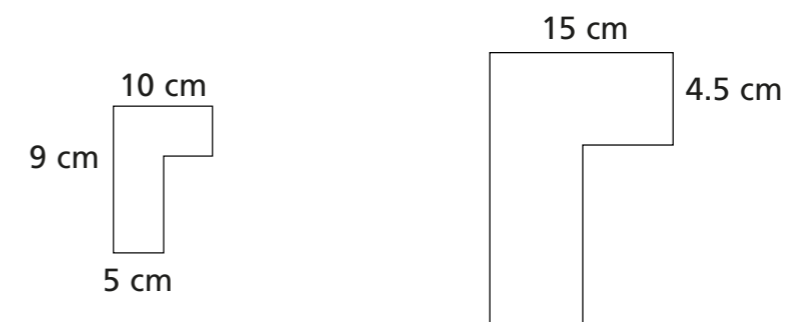
d) scale factor $\frac{1}{3}$

length = width =

e) scale factor $\frac{2}{3}$

length = width =

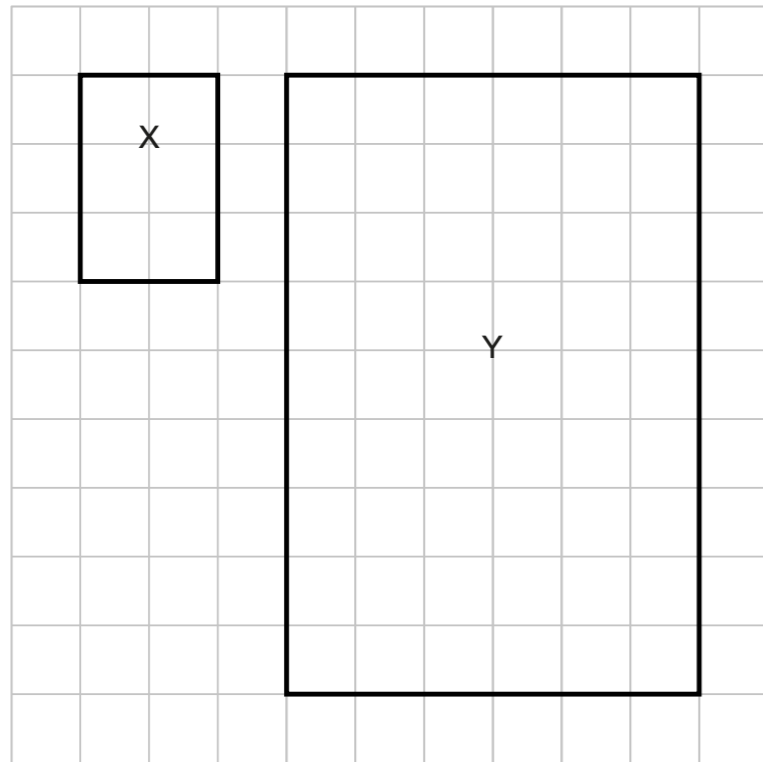
3 These hexagons are similar.



a) What is the scale factor of enlargement?

b) Work out all the missing lengths. Label them on the diagrams.

4



a) What is the scale factor of enlargement from shape X to shape Y?

b) Write the ratio width X:width Y.

 :

c) Write the ratio length X:length Y.

 :

d) What is the ratio of the lengths of the diagonals of shapes X and Y?

 :

e) What is the ratio of the perimeters of shapes X and Y?

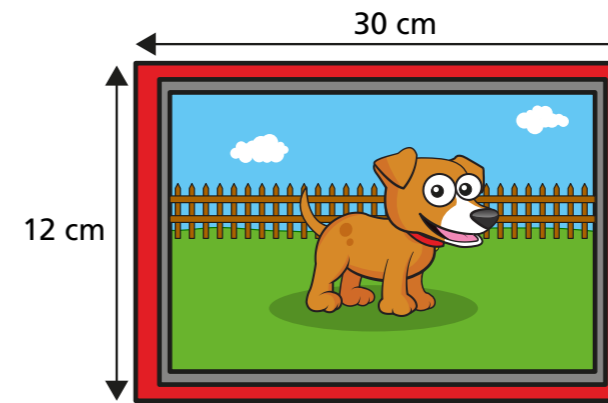
 :

f) Compare answers with a partner.

g) Explain any connections between your answers.

5

A photograph is 12 cm by 30 cm.



Mo has some enlargements made of the photograph.

a) Find the length and width of the photograph if it is enlarged by a scale factor of 5

length = width =

b) Find the length and width of the photograph if it is enlarged by a scale factor of 3.6

length = width =

c) Find the width of the photograph if its length is 84 cm after an enlargement.

d) Find the length of the photograph if its width is 4.5 m after an enlargement.

