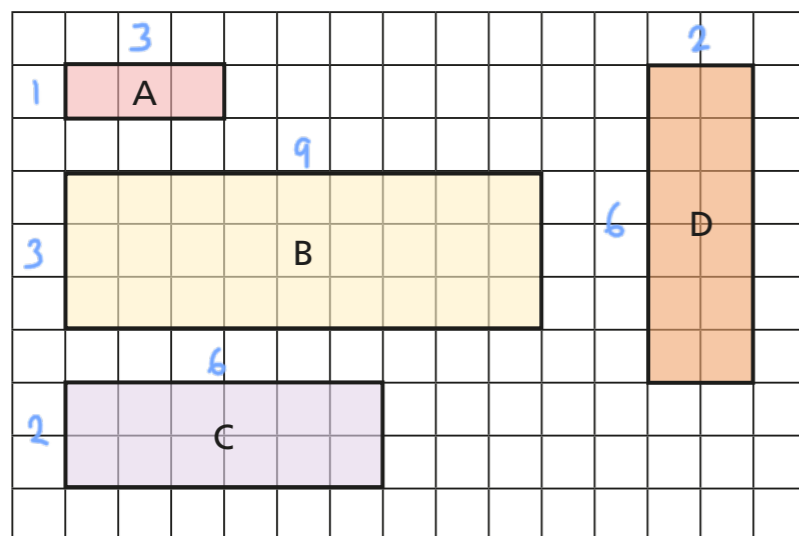# Calculating scale factors

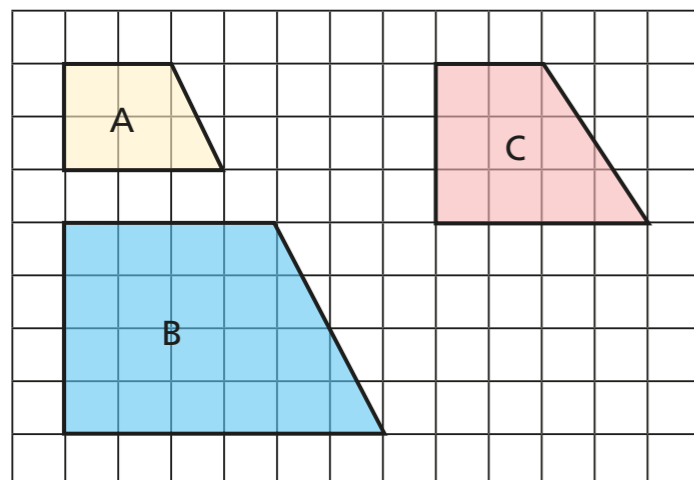**1** Complete the sentences.

Shape B is an enlargement, by a scale factor of [3], of shape A.

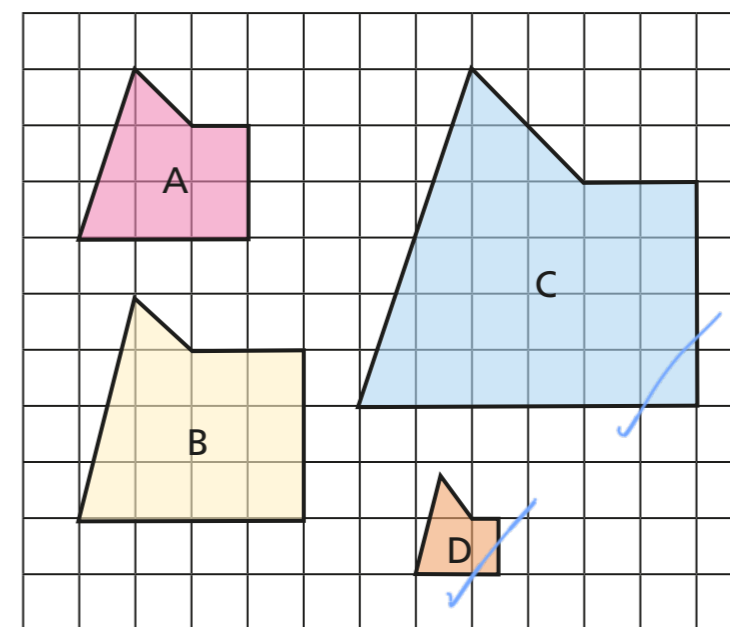Shape C is an enlargement, by a scale factor of [2], of shape A.

Shape D is an enlargement, by a scale factor of [2], of shape A.

2 Shape B is an enlargement of shape A. Shape C is not an enlargement of shape A.

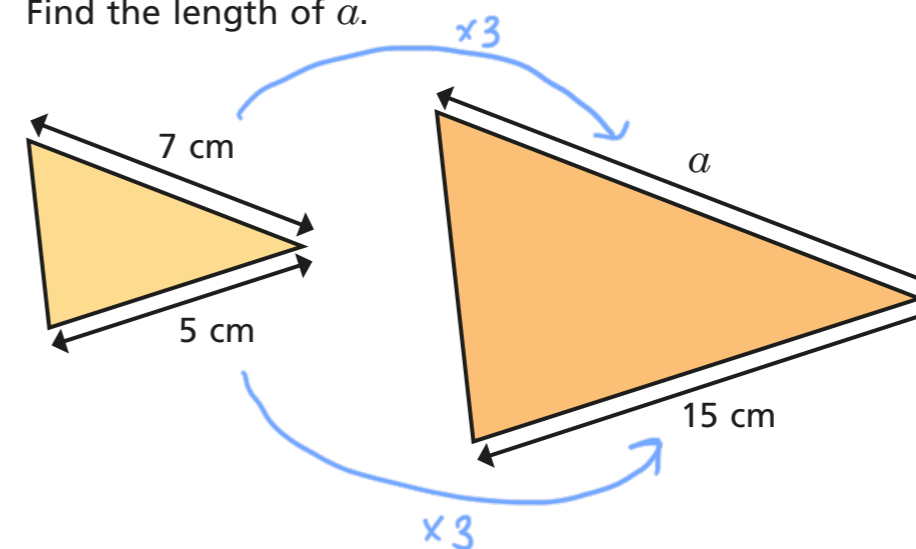Talk to a partner about why this is the case.

3 Tick all the shapes that are an enlargement of shape A.

How do you know which shapes are enlargements?
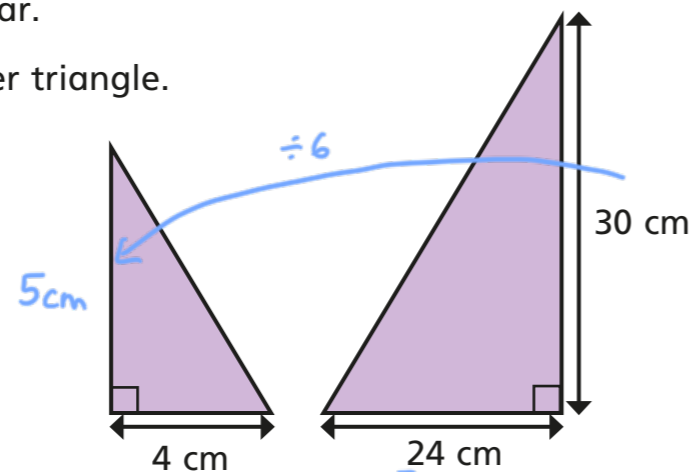
4 The two triangles are similar.

Find the length of a.

7 cm

5 cm

×3

a

15 cm

×3

$a = $ [21] cm

5 The two triangles are similar.

Find the area of the smaller triangle.

÷6

30 cm

5cm

×6

4 cm   24 cm

$\frac{5cm \times 4cm}{2} = \frac{20cm^2}{2} = 10cm^2$

area = 10 cm²

6 These two children's toys are similar.

Find the length marked y.

÷4
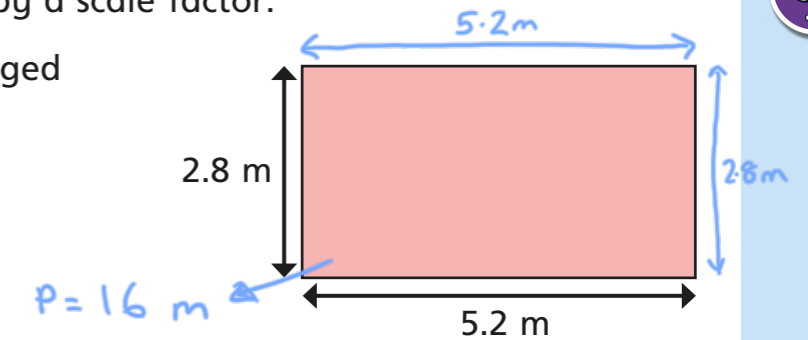
20 cm   5 cm

18 cm y

÷4
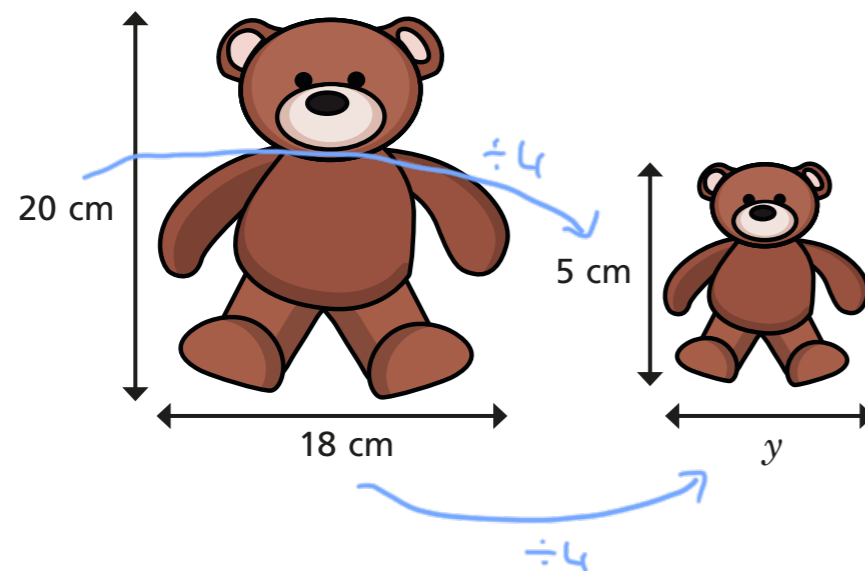
$y =$ 4·5 cm

7 The rectangle is enlarged by a scale factor.

The perimeter of the enlarged rectangle is 64 m.

What is the scale factor of enlargement?

5·2m

2.8 m   2·8m

P = 16 m

5.2 m

16 m   64m

×4

scale factor = 4

8 The diagram shows three similar triangles.

Calculate the missing values.

×1·5

÷3   53°

b 21 mm d

a

37° c

6 mm   18 mm   27 mm

×3   ×1·5

$a =$ 7 mm $b =$ 53° $c =$ 37° $d =$ 31·5mm