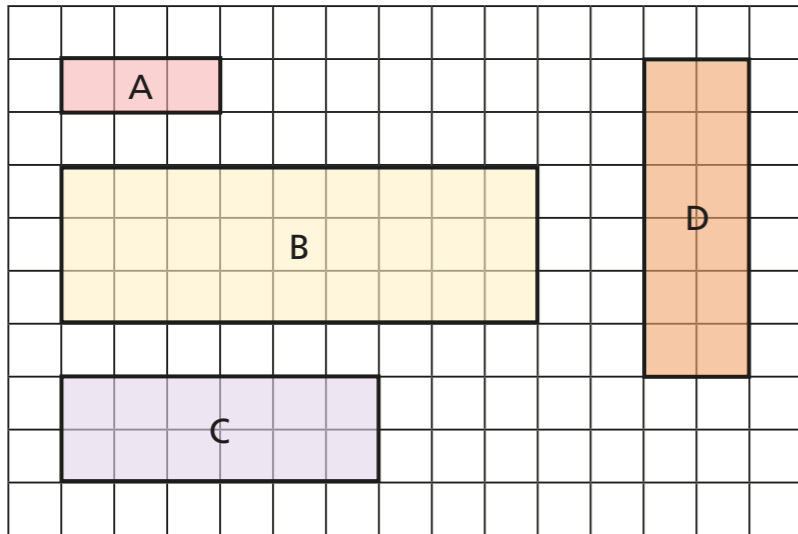# Calculating scale factors

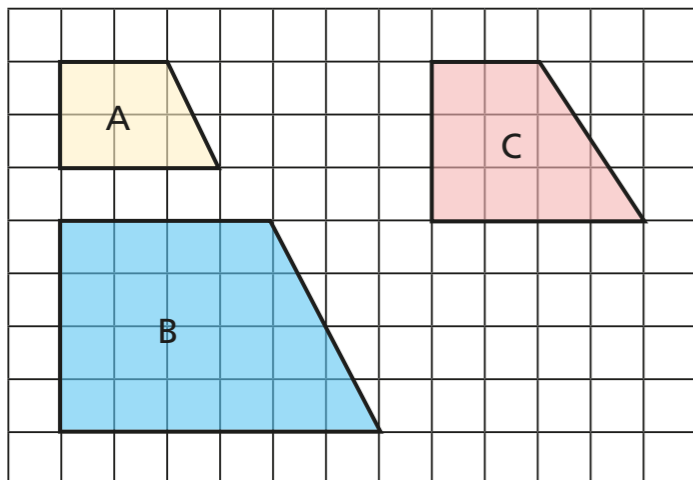**1** Complete the sentences.

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

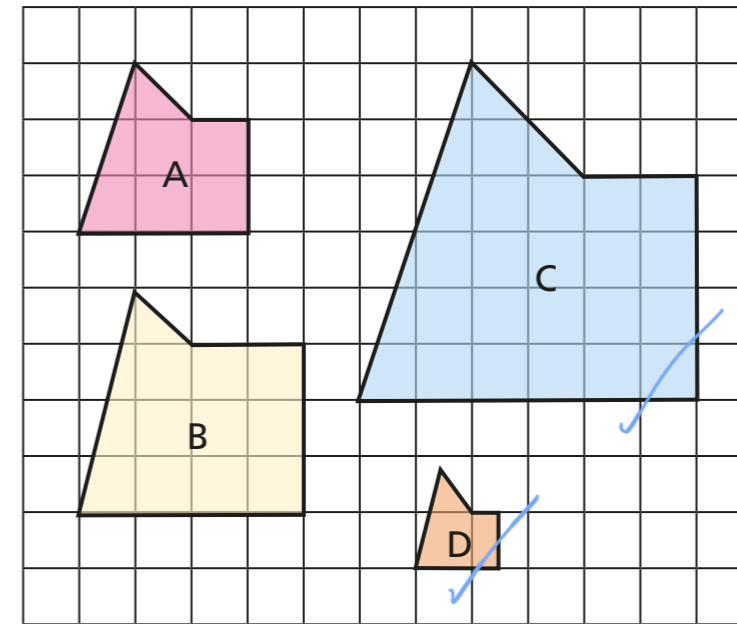Shape C is an enlargement, by a scale factor of [2], of shape A.

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.

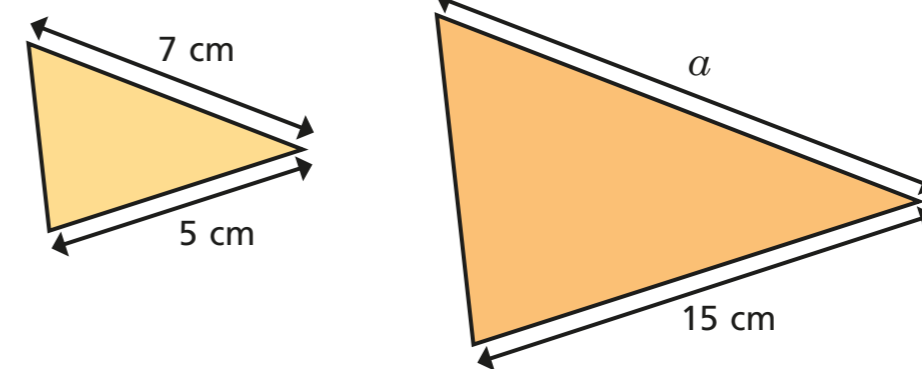Talk to a partner about why this is the case.

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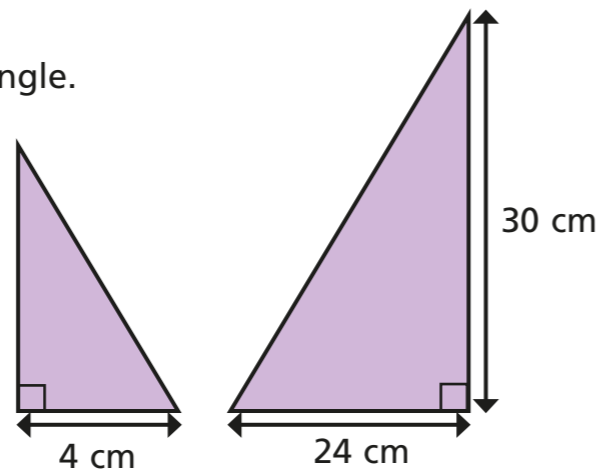

How do you know which shapes are enlargements?

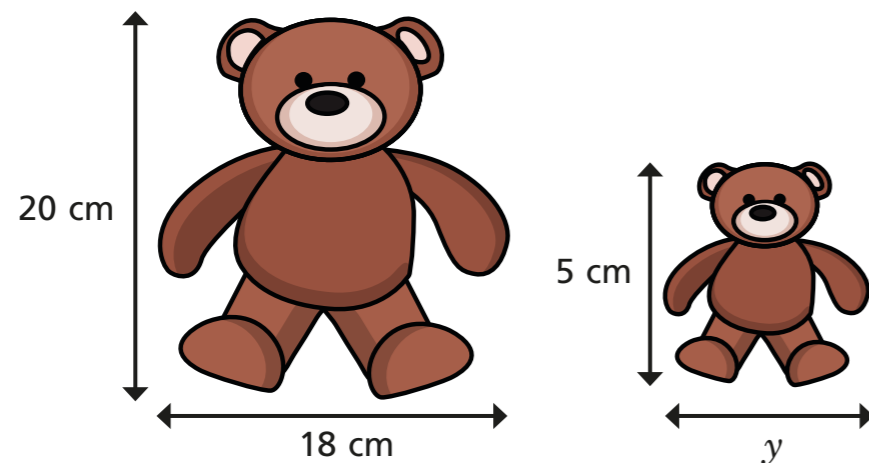**4** The two triangles are similar.

Find the length of a.

7 cm

5 cm

a

15 cm

$a = $ [21] cm

5 The two triangles are similar.

Find the area of the smaller triangle.

30 cm

4 cm   24 cm

area = 10 cm²

6 These two children's toys are similar.

Find the length marked y.

20 cm

5 cm

18 cm y

y = 4·5 cm
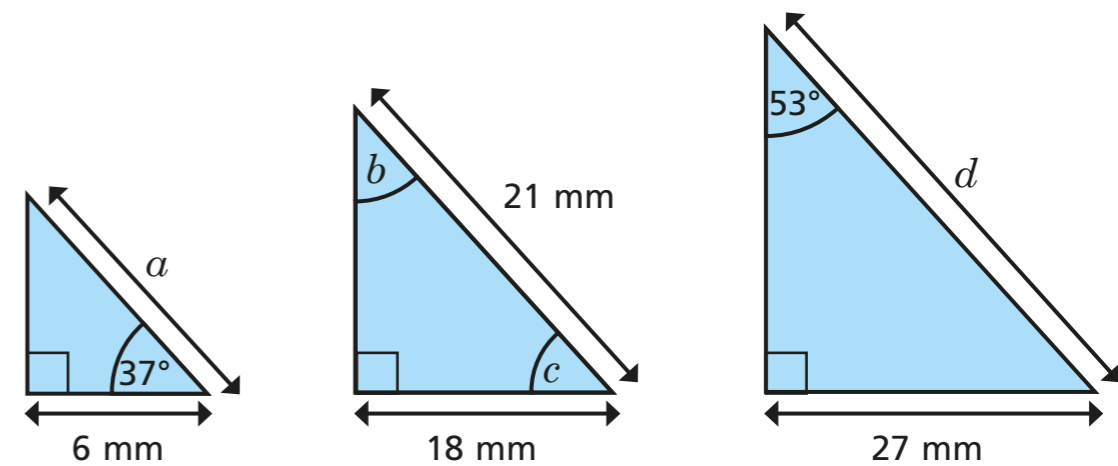
7 The rectangle is enlarged by a scale factor.

The perimeter of the enlarged rectangle is 64 m.

What is the scale factor of enlargement?

2.8 m

5.2 m
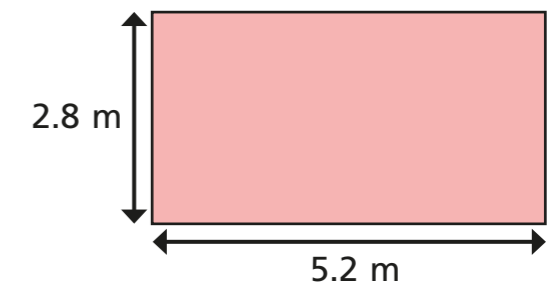
scale factor = 4

8 The diagram shows three similar triangles.

Calculate the missing values.

a

37°

6 mm

b 21 mm

c

18 mm

53° d

27 mm

a = 7 mm b = 53° c = 37° d = 31·5mm