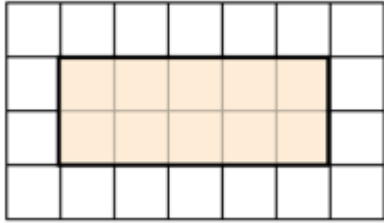


RECALL



Can you draw a rectangle which is three times larger than this one?

What will its length be?

What will its width be?

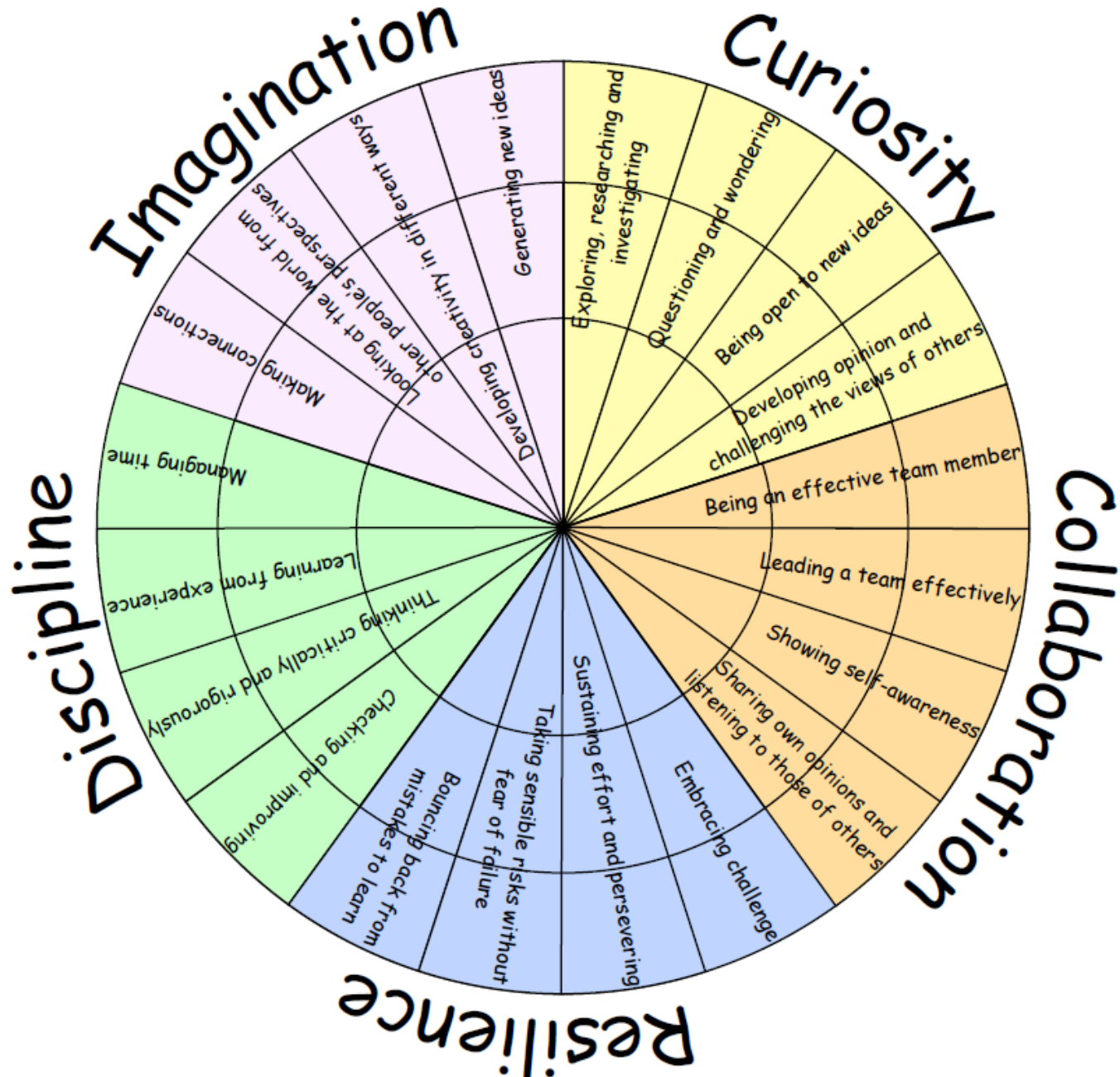


How is the area of the smaller and larger rectangle related? Why?

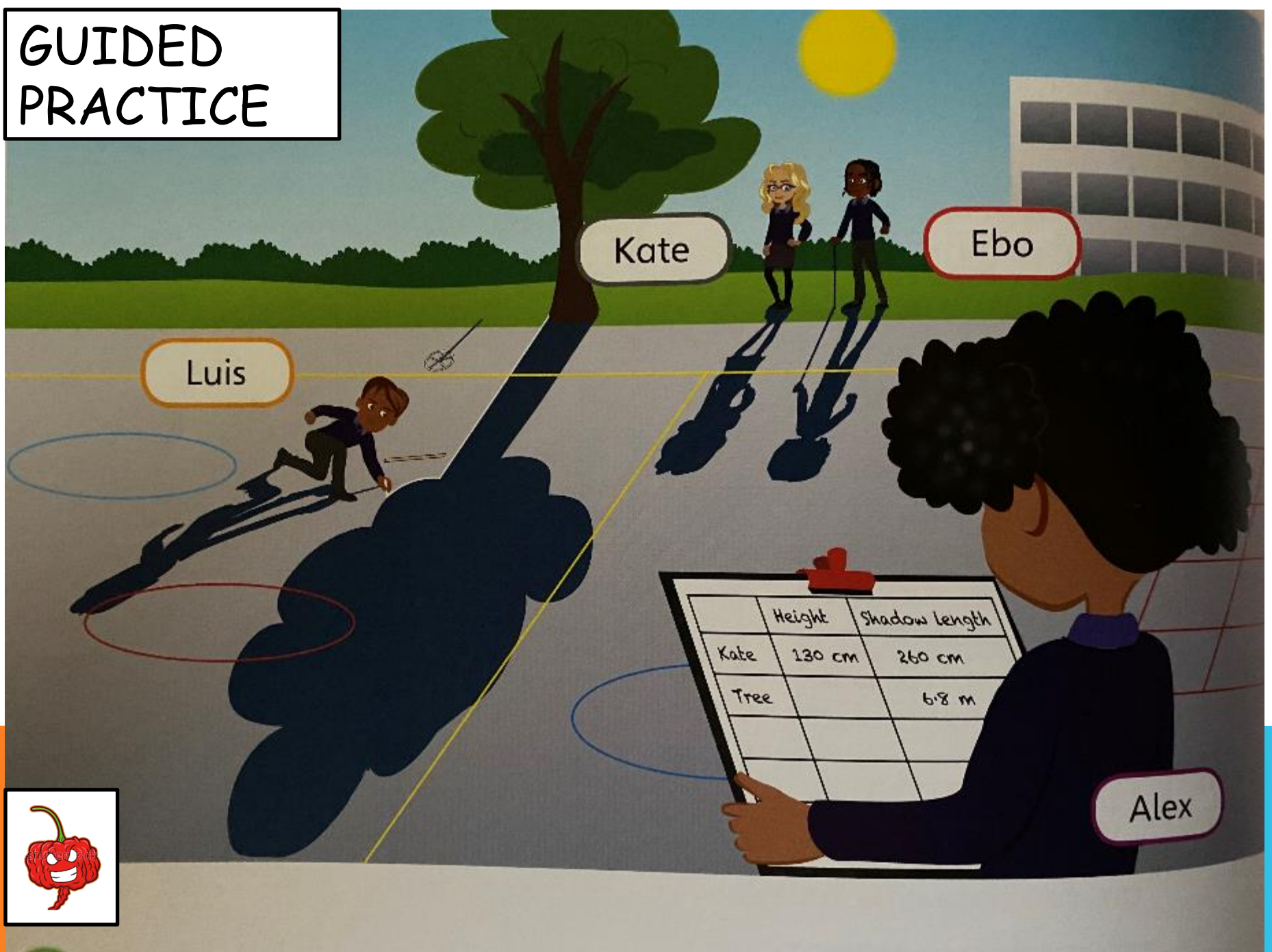
I CAN SOLVE PROBLEMS
INVOLVING SIMILAR SHAPES
WHERE THE SCALE FACTOR IS
KNOWN OR CAN BE FOUND

Percentages and Ratio (15iv)

LEARNING HABITS?



GUIDED PRACTICE



INTELLIGENT PRACTICE



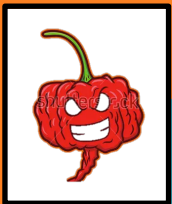
If I draw a line of 5cm and then another one that is 10cm long, what is the scale factor enlargement?



If I draw a line of 5cm and then another one that is 15cm long, what is the scale factor enlargement?



If I draw a line of 5cm and then another one that is 12.5cm long, what is the scale factor enlargement?



If I enlarge a rectangle, I can say that the two rectangles are similar - they are the same shape but not the same size.
REMEMBER THIS!

INTELLIGENT PRACTICE



If I draw a line of 5cm and then another one that is 10cm long.

Scale factor = 2



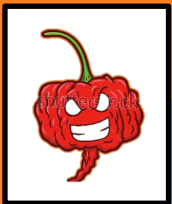
If I draw a line of 5cm and then another one that is 15cm long.

Scale factor = 3



If I draw a line of 5cm and then another one that is 12.5cm long.

Scale factor = 2.5



If I enlarge a rectangle, I can say that the two rectangles are similar - they are the same shape but not the same size.
REMEMBER THIS!

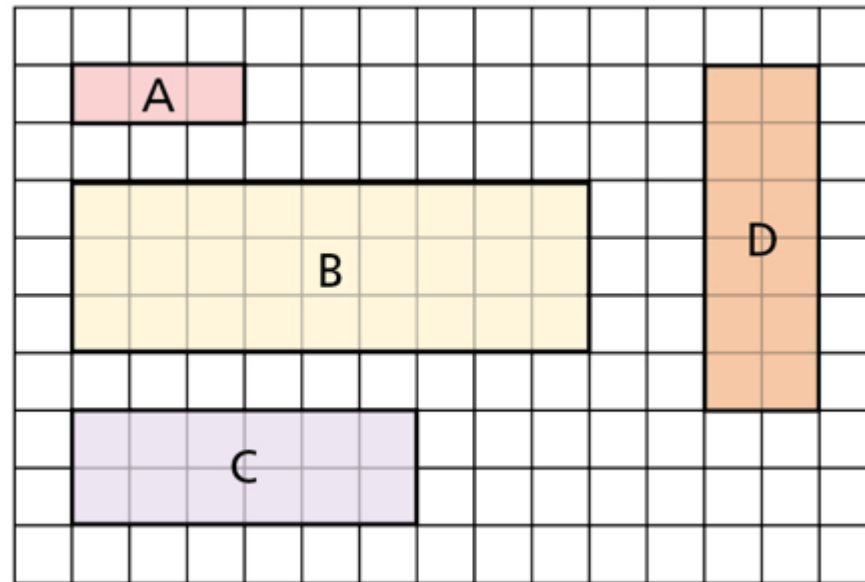
DIVE DEEPER 1

1) Copy and complete these sentences:

a) Shape B is an enlargement of Shape A. The scale factor enlargement is ...

b) Shape C is an enlargement of Shape A. The scale factor enlargement is ...

c) Shape D is an enlargement of Shape A. The scale factor enlargement is ...

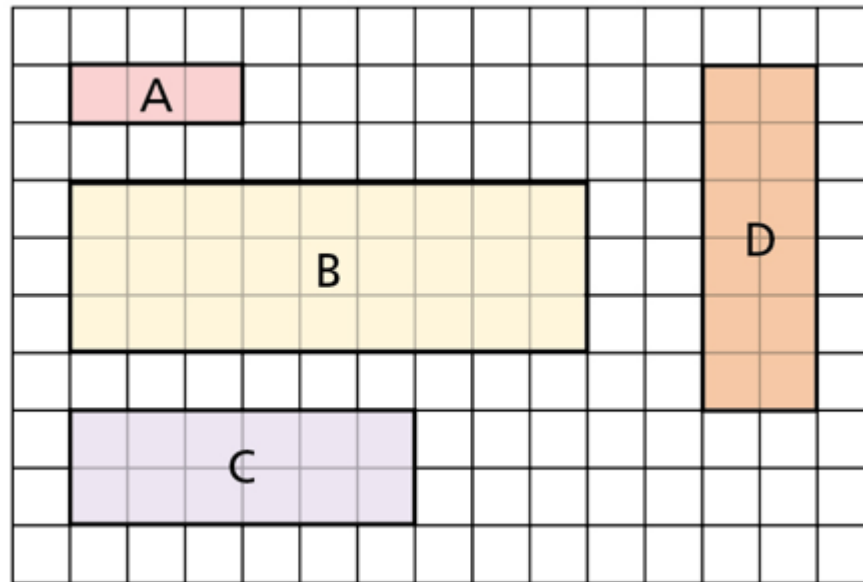


2) A shape which has been enlarged by a scale factor of 2 has been made to be ... as big.

DIVE DEEPER 1 - ANSWERS

1) Copy and complete these sentences:

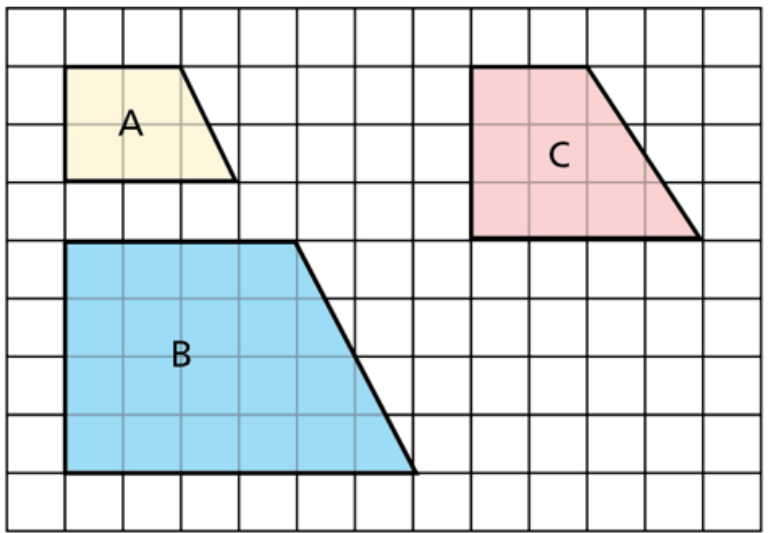
- a) Shape B is an enlargement of Shape A. The scale factor enlargement is **3**.
- b) Shape C is an enlargement of Shape A. The scale factor enlargement is **2**.
- c) Shape C is an enlargement of Shape A. The scale factor enlargement is **2**.



2) A shape which has been enlarged by a scale factor of 2 has been made to be **twice** as big.

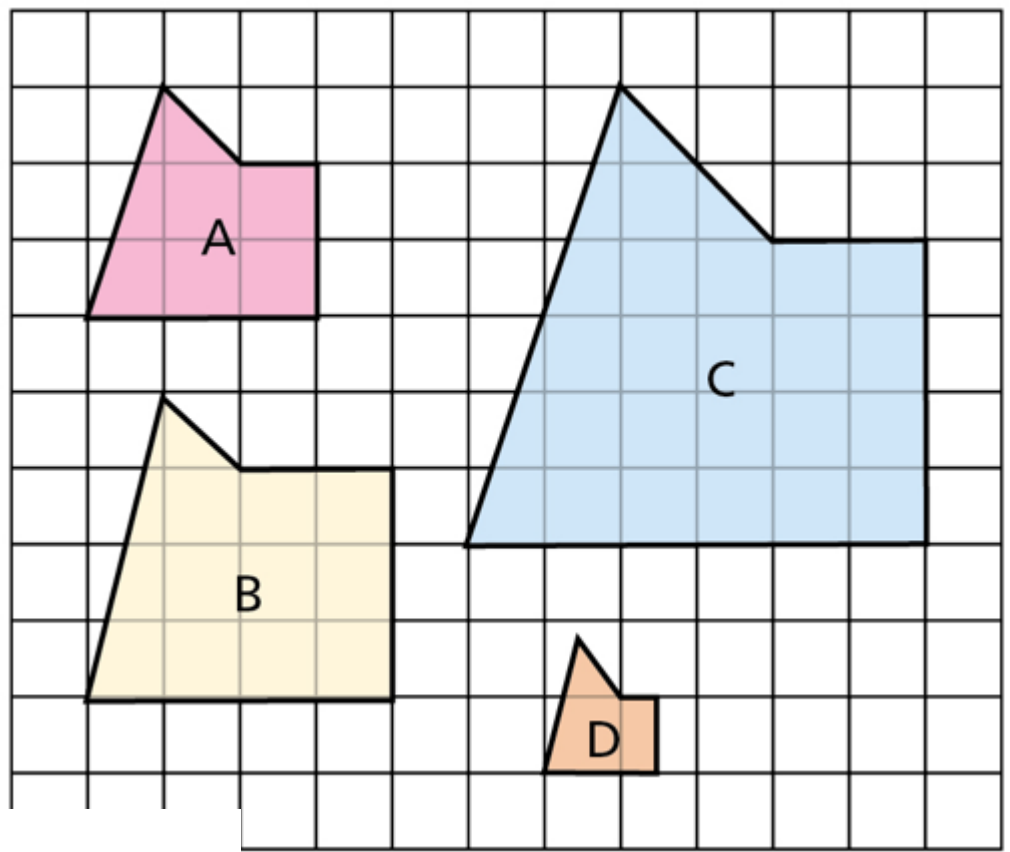
DIVE DEEPER 2

3) Which shape is an enlargement of Shape A?

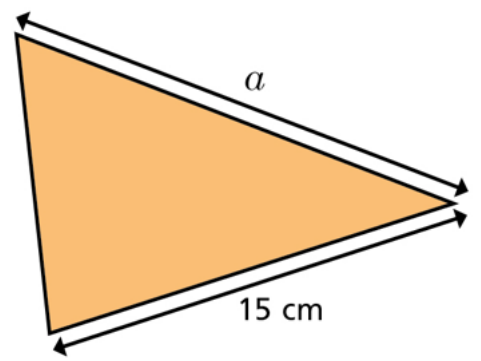
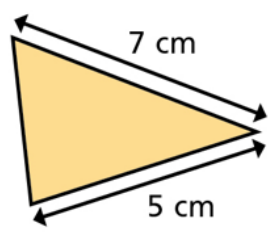


Why is the other shape **not** an enlargement of Shape A?

4) Tick all the shapes which are enlargements of Shape A:

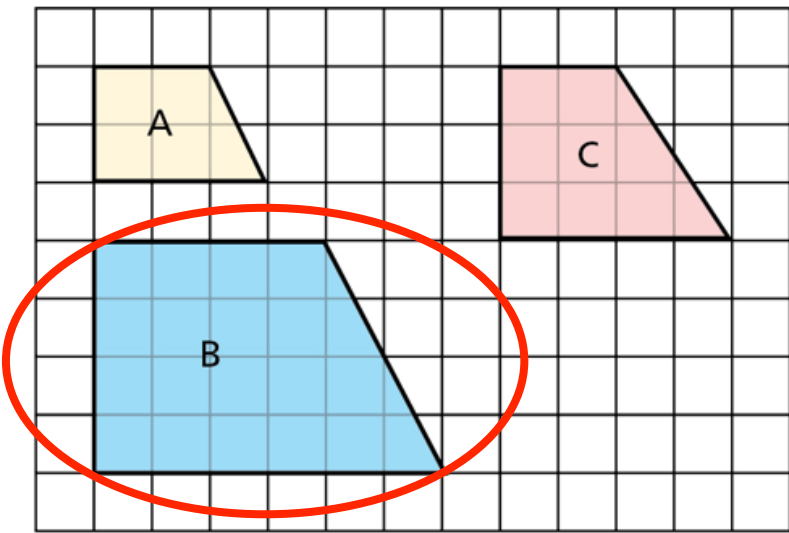


5) The two triangles are similar. Find the length of side a .



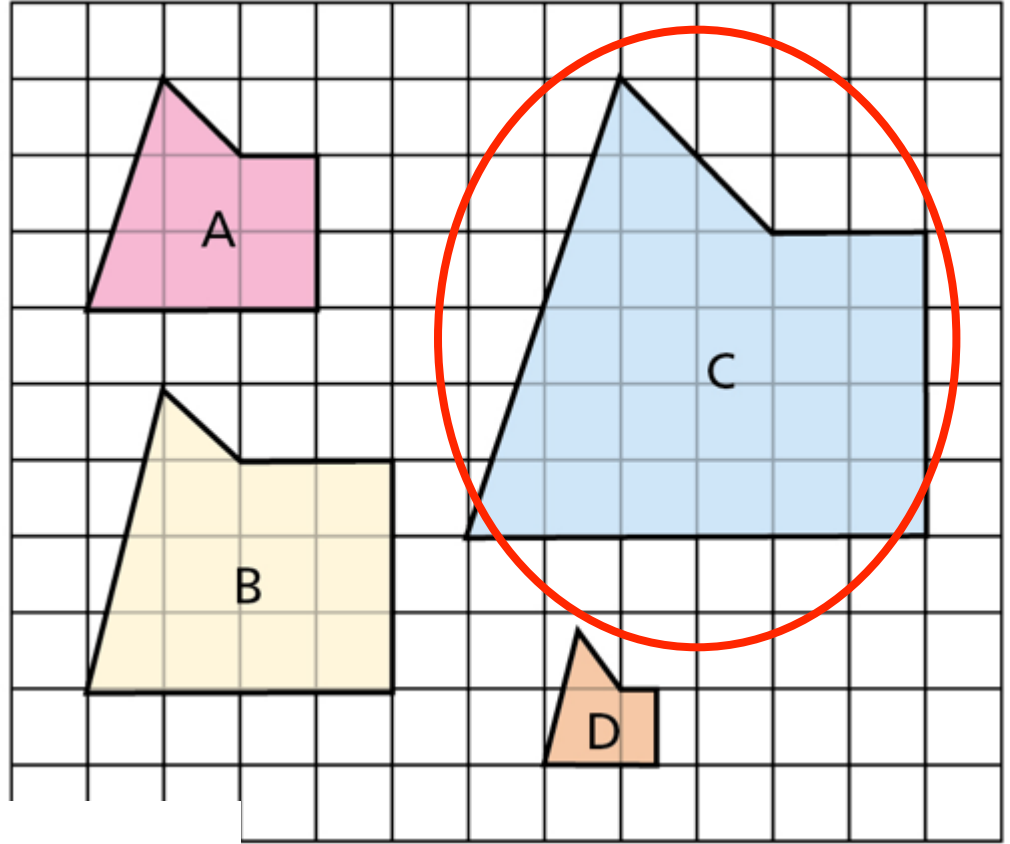
DIVE DEEPER 2 - ANSWERS

3) Which shape is an enlargement of Shape A?



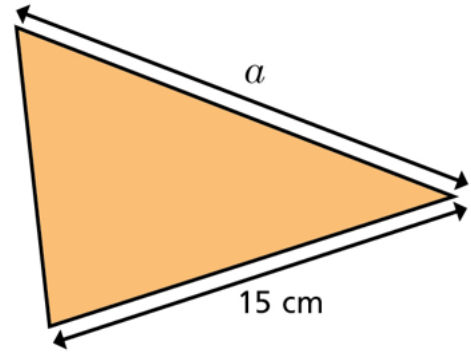
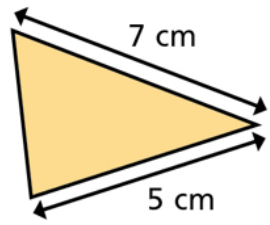
Shape C is not an enlargement because the top side is equal in both shapes.

4) Tick all the shapes which are enlargements of Shape A:



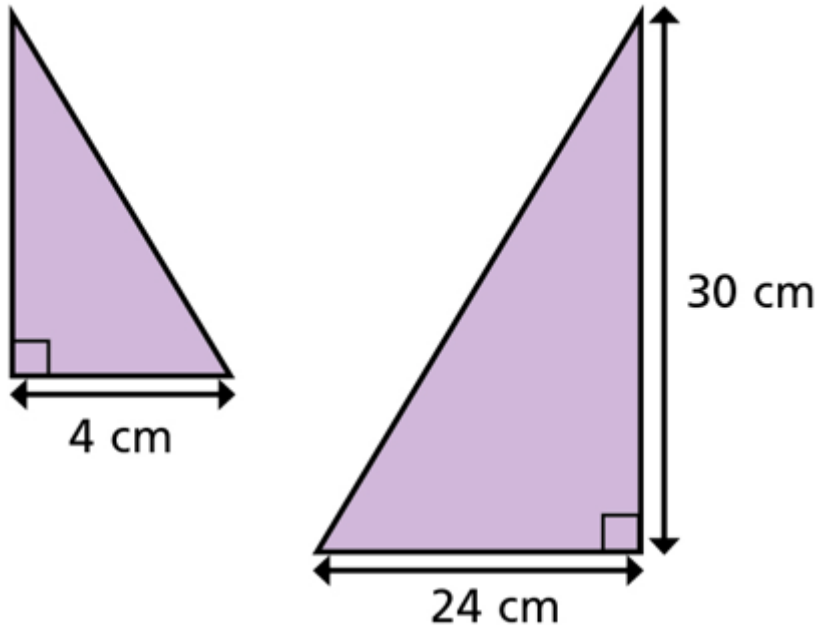
5) The two triangles are similar.

$A = 21\text{cm}$

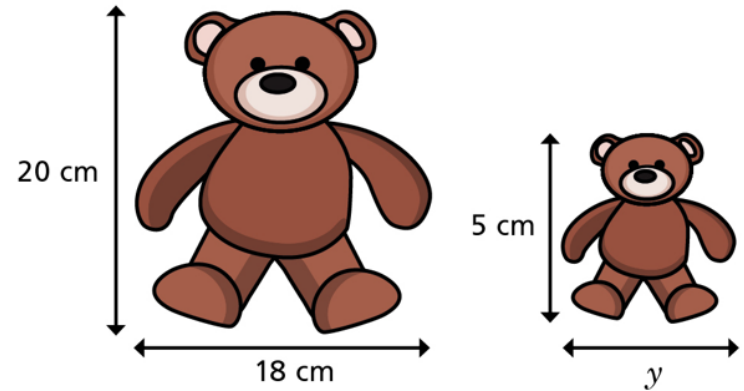


DIVE DEEPER 3

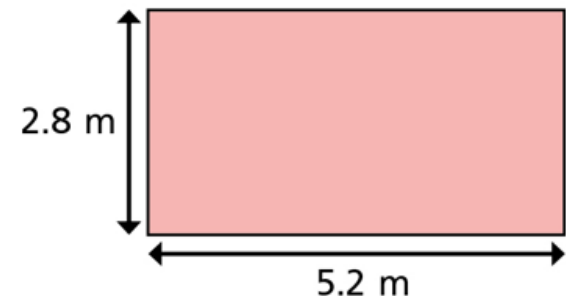
6) The two triangles are similar.
Find the area of the smaller triangle.
Area of $\Delta = (\text{half of the base}) \times \text{height}$



8) These two children's toys are similar.
Find the length marked y .



7) The rectangle is enlarged by a scale factor.
The perimeter of the enlarged rectangle is 64m.
What is the scale factor enlargement?

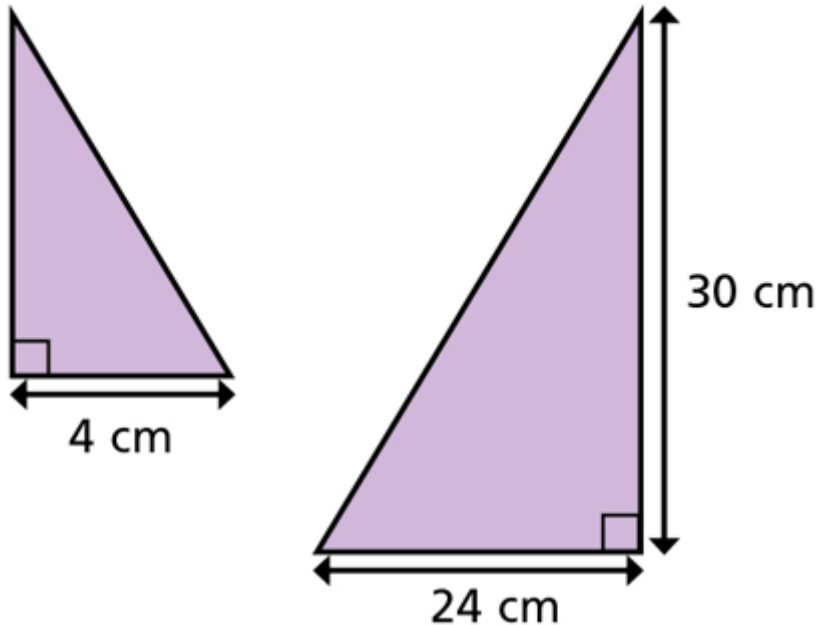


DIVE DEEPER 3 - ANSWERS

6) The two triangles are similar.

Area of large $\Delta = 360\text{cm}^2$

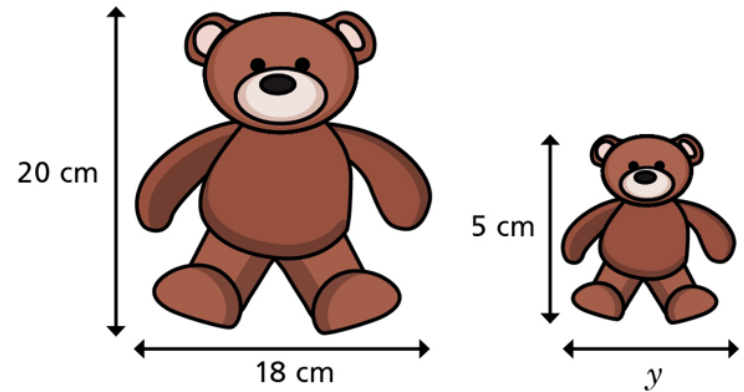
Area of small $\Delta = 10\text{cm}^2$



8) These two children's toys are similar.

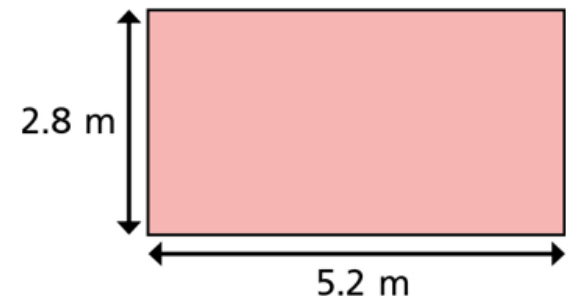
Find the length marked y .

$y = 4.5\text{cm}$



7) The rectangle is enlarged by a scale factor.
The perimeter of the enlarged rectangle is 64m.
What is the scale factor enlargement?

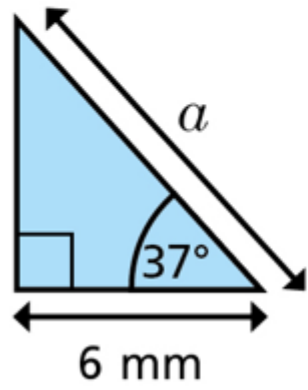
Scale factor enlargement of 4



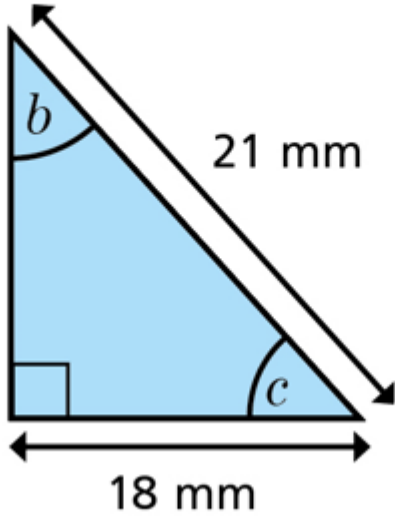
DIVE DEEPER 4

9) The diagram shows three similar triangles.

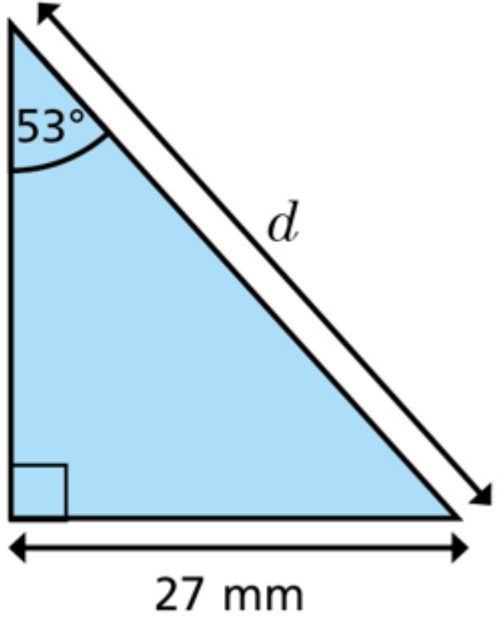
Calculate the missing values:



$a = ?$



$b = ?$



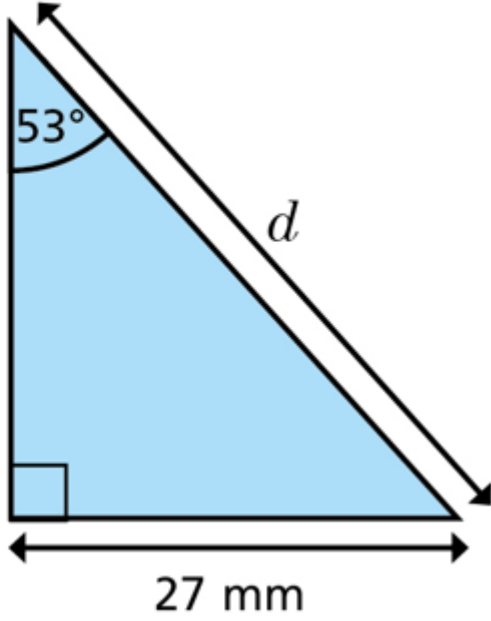
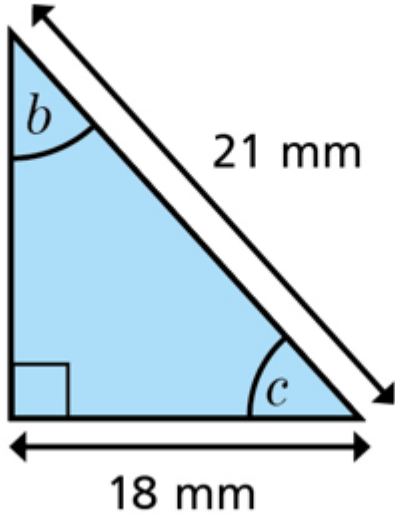
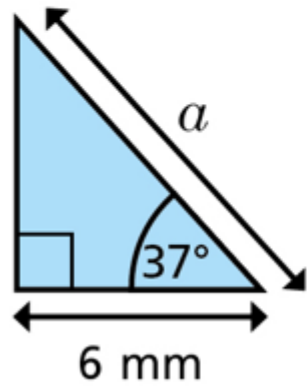
$c = ?$

$d = ?$

DIVE DEEPER 4 - ANSWERS

9) The diagram shows three similar triangles.

Calculate the missing values:



$a = 7\text{ mm}$

$b = 53^\circ$

$c = 37^\circ$

$d = 31.5\text{ mm}$

SELF-ASSESSMENT

- Some will even be able to apply unitary calculations to find answers
 - Some will be able to calculate scale factor enlargements involving fractions
 - Most will be able to identify scale factors of 2, 3 or 4
 - All will spot shapes which have been enlarged by a scale factor of 2
- 