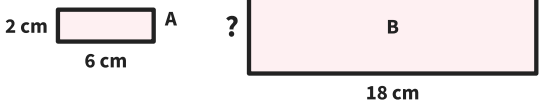
Similar shapes: missing lengths

ANSWERS

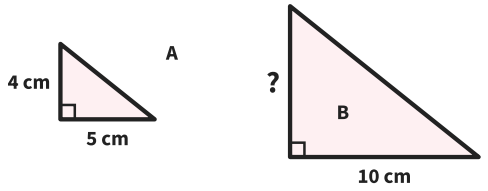
1 A and B are similar. Find the missing length.



	Width	Height
A	6	2
B	18	6

× 3

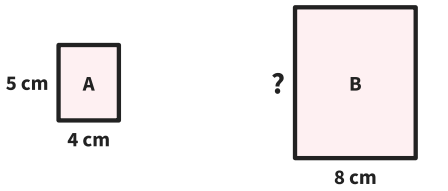
2 A and B are similar. Find the missing length.



	Base	Height
A	5	4
B	10	8

× 2

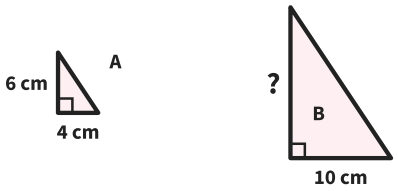
3 A and B are similar. Find the missing length.



	Width	Height
A	4	5
B	8	10

× 2

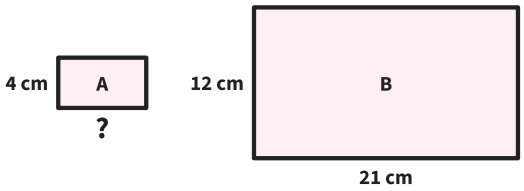
4 A and B are similar. Find the missing length.



	Base	Height
A	4	6
B	10	15

× 2.5

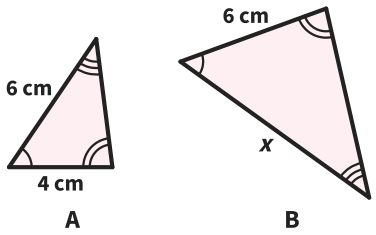
5 A and B are similar. Find the missing length on A. *Notice the change!*



	Width	Height
A	7	4
B	21	12

× 3

6 A and B are similar. Matching angles have the same marks. Find the length x.

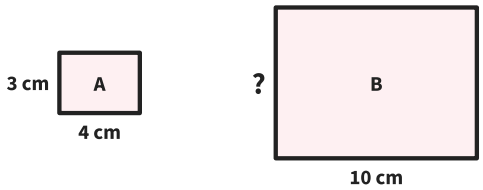


scale factor 6 ÷ 4 = 1.5

6 × 1.5 = 9

x = 9 cm

7 A and B are similar. Ella says the missing height is 9 cm, because 10 − 4 = 6 and 3 + 6 = 9. Explain her mistake and find the height.



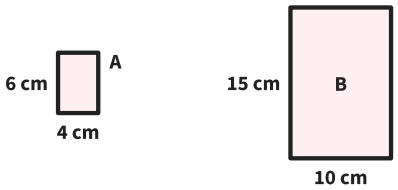
multiply, don't add

scale factor 10 ÷ 4 = 2.5

3 × 2.5 = 7.5

Height 7.5 cm

8 Are rectangles A and B similar? Show how you know.



10 ÷ 4 = 2.5 and 15 ÷ 6 = 2.5

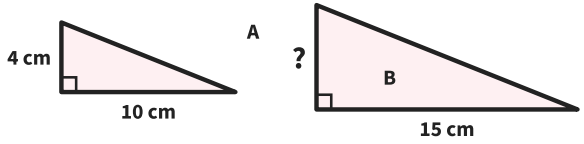
the same scale factor

Answer Yes

Similar shapes: missing lengths *further practice*

ANSWERS

9 A and B are similar. Find the missing length.

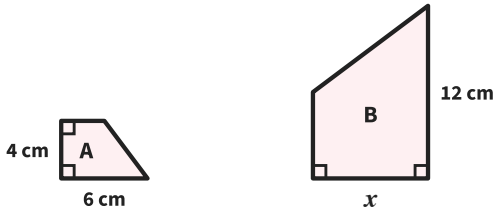


scale factor 15 ÷ 10 = 1.5

4 × 1.5 = 6

Answer *6 cm*

10 A and B are similar. Find the length x.

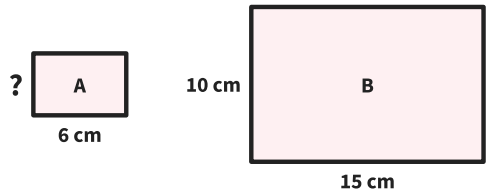


scale factor 12 ÷ 6 = 2

4 × 2 = 8

$x =$ *8 cm*

11 B is an enlargement of A: they are similar. Find the missing height of A.

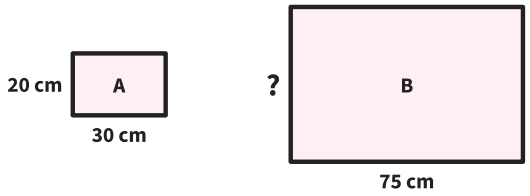


scale factor 15 ÷ 6 = 2.5

10 ÷ 2.5 = 4

Answer *4 cm*

12 A flag, A, is made in a bigger size, B. A and B are similar. How tall is B?

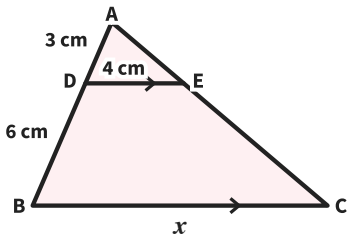


scale factor 75 ÷ 30 = 2.5

20 × 2.5 = 50

Answer *50 cm*

13 DE is parallel to BC. Triangles ADE and ABC are similar. Find x.



AB = 3 + 6 = 9 cm

scale factor 9 ÷ 3 = 3

$x =$ *12 cm*

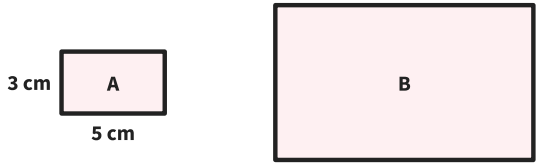
14 A model boat is 15 cm long and 6 cm tall. The real boat is similar to the model and is 9 m long. How tall is the real boat? Give your answer in metres.

9 m = 900 cm, scale factor 900 ÷ 15 = 60

6 × 60 = 360 cm

Answer *3.6 m*

15 A and B are similar rectangles. The perimeter of B is 40 cm. Find the width and height of B.

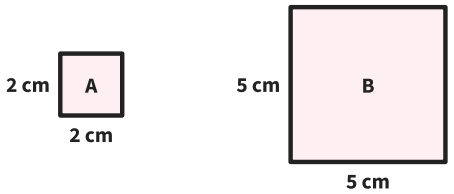


perimeter of A = 16 cm

scale factor 40 ÷ 16 = 2.5

Answer *12.5 cm by 7.5 cm*

16 Kai says that any two squares are similar. Is he right? Explain.



all the angles are 90°

each side × the same number

Answer *Yes*