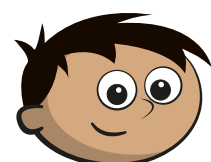
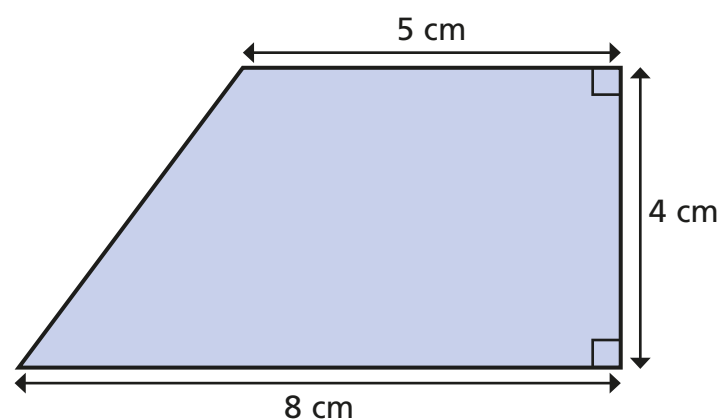


Calculate the area of a trapezium

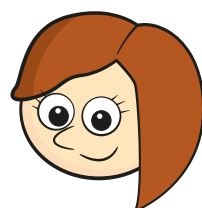
- 1 Amir and Rosie are working out the area of this trapezium.



Amir

I will divide the shape into a rectangle and triangle, and work out the area of each one.

I will just use the formula for the area of a trapezium.



Rosie

- a) Use Amir's method to find the area of the trapezium.

26

cm²

- b) Use Rosie's method to find the area of the trapezium.

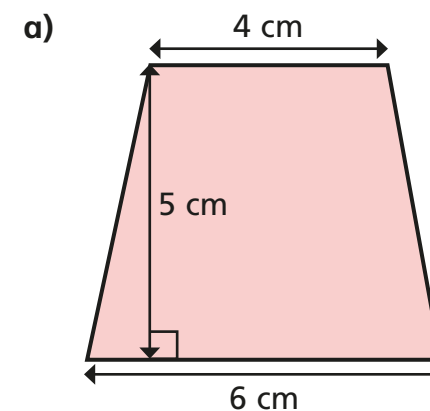
26

cm²

Whose method do you prefer?

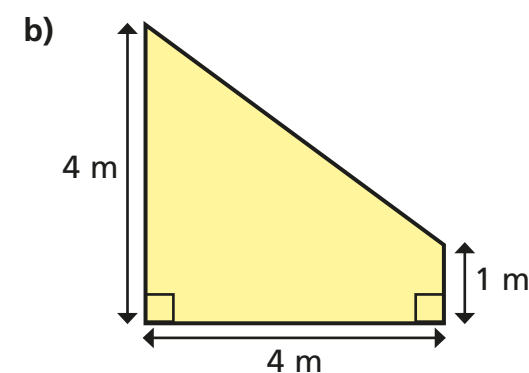
Various

- 2 Find the area of each trapezium.



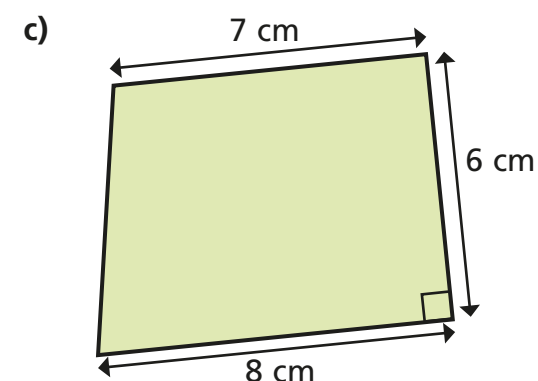
25

cm²



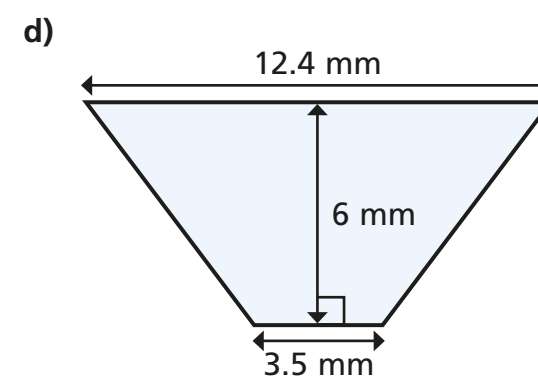
10

m²



45

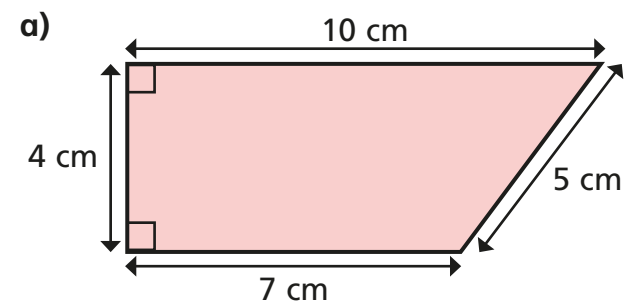
cm²



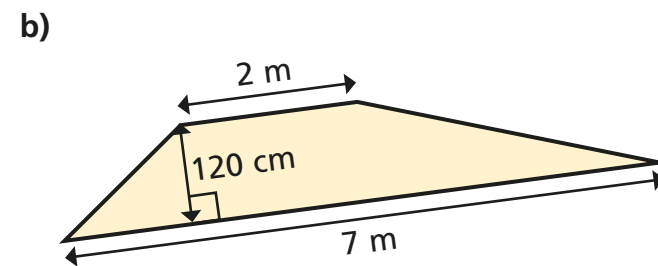
47.7

mm²

3 Work out the area of each trapezium.



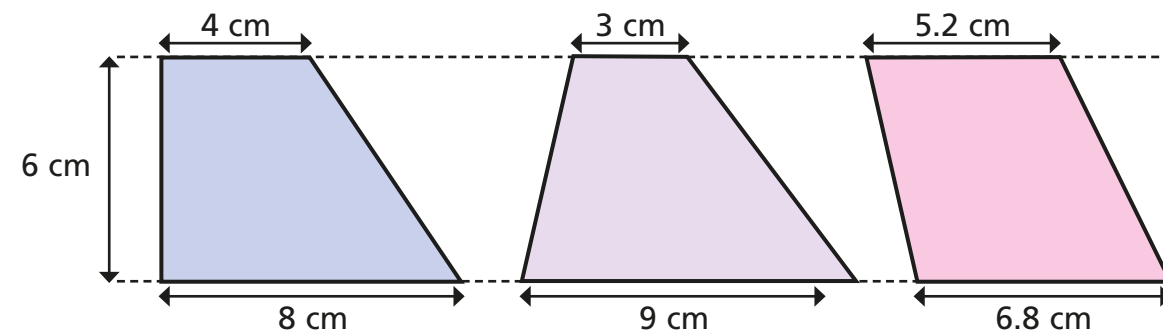
34 cm^2



5.4 m^2

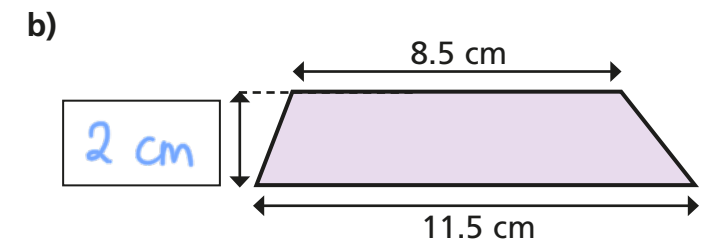
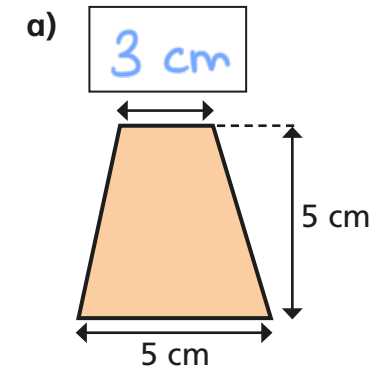
c) Discuss with a partner what mistakes could be made when working out the areas in parts a) and b).

4 Explain why these trapeziums all have the same area.

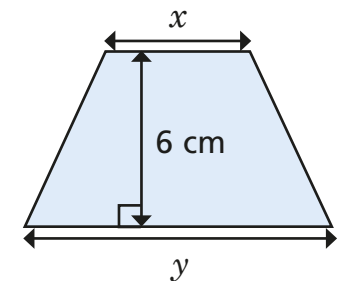


Each trapezium has the same height and the sum of their parallel sides is equal.

5 The area of each trapezium is 20 cm^2 . Find and label the missing lengths.



6 The area of the trapezium is 24 cm^2

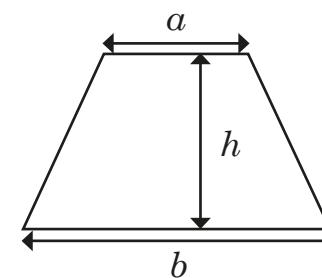


Write three possible pairs of values of x and y .

$x =$	1 cm	$y =$	7 cm
$x =$	2 cm	$y =$	6 cm
$x =$	3 cm	$y =$	5 cm

7 Prove the statement.

The formula for a trapezium is equal to the area of a parallelogram when the lengths of a and b are equal.



When $a = b$, then

$$\frac{1}{2}(a+b)h = \frac{1}{2}(b+b)h$$

$$= \frac{1}{2}(2b)h$$

$$= bh$$