

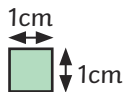
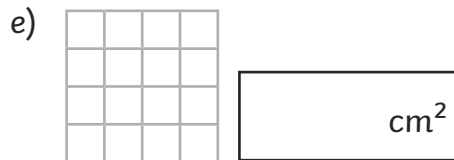
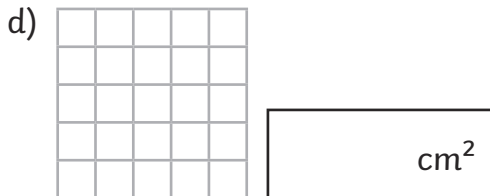
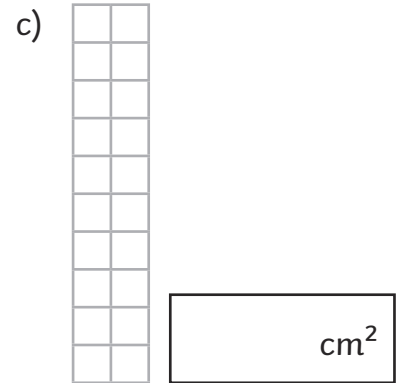
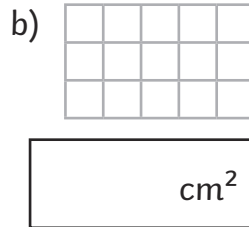
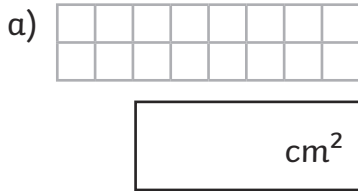
# Area of Rectangles

To calculate the area of rectangles and squares.



1) Count the squares to calculate the area of these shapes:

shapes not to scale

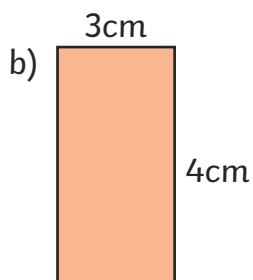


2) Calculate the area of the following shapes by multiplying the **length** by the **width**. Remember to give your answer in **cm<sup>2</sup>**.



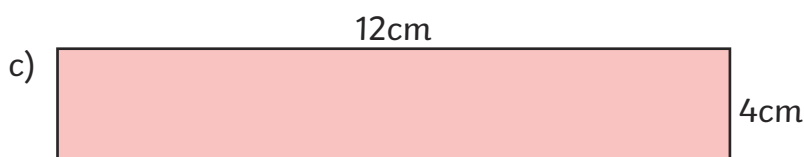
$$\boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Area =



$$\boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Area =



$$\boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Area =

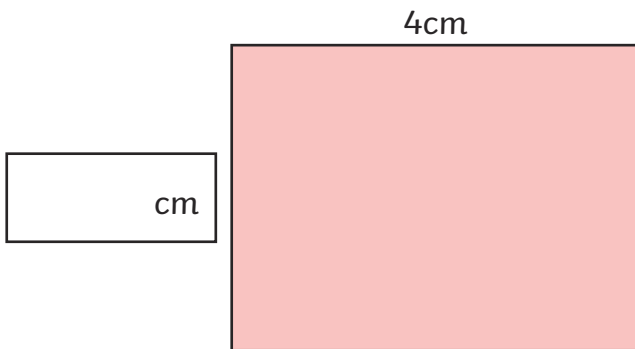
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shapes not to scale

3) This shape has an area of  $12\text{cm}^2$ .

a) Find the missing measurement.

b) Use mathematical reasoning to explain how you calculated the answer.



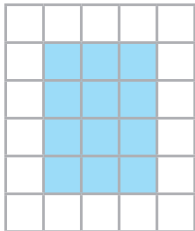

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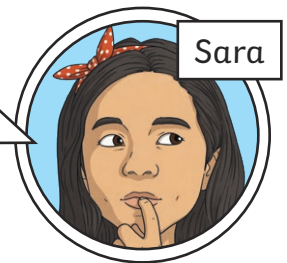
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4) What mistake has Sara made? Correct Sara's area calculation, giving reasons to explain where she went wrong.



Area =   $\text{cm}^2$

This blue shape has an area of  $8\text{cm}^2$ .



Sara

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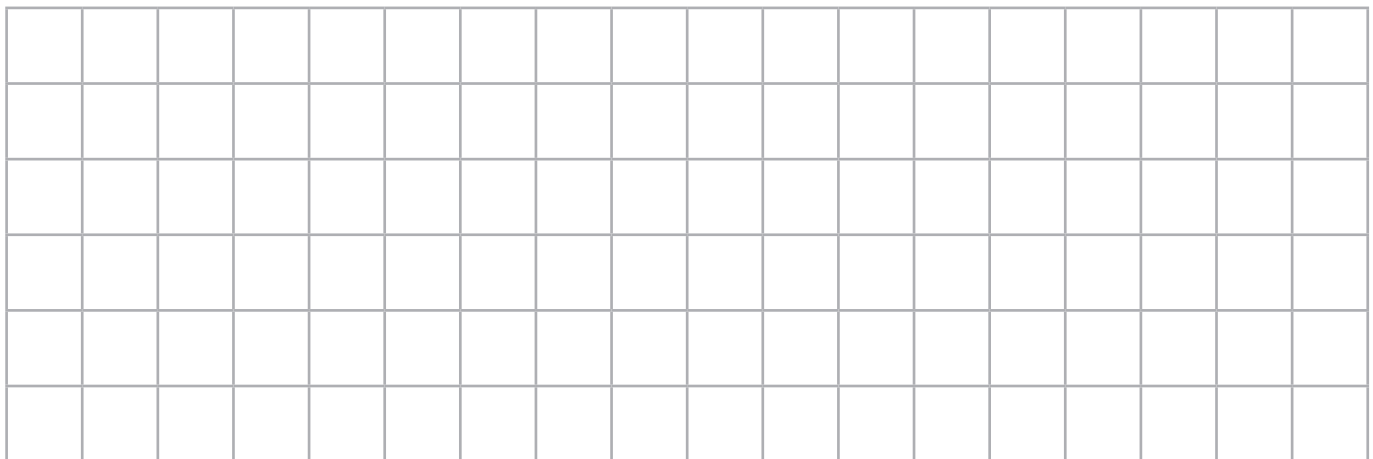
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5)

1 square =  $1\text{cm}^2$

a) Draw a square with an area of  $16\text{cm}^2$ .

b) Draw a rectangle with an area of  $16\text{cm}^2$ .



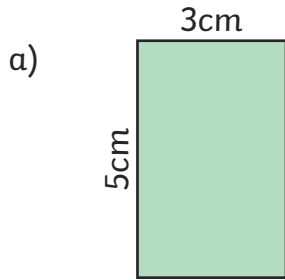
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# Area of Rectangles

To calculate the area of rectangles and squares.

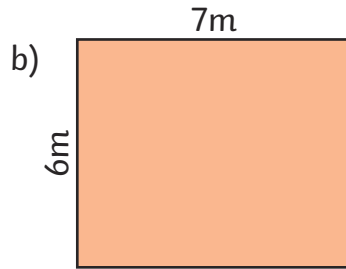


- 1) Calculate the area of the following shapes by multiplying the **length** by the **width**. Remember to give your answer in **cm<sup>2</sup>** or **m<sup>2</sup>**.



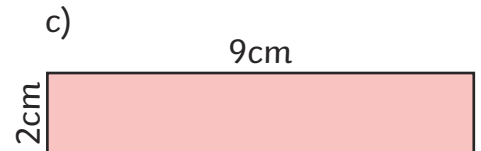
$$\boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Area =  



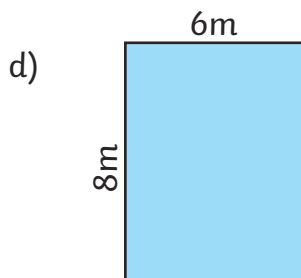
$$\boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Area =  

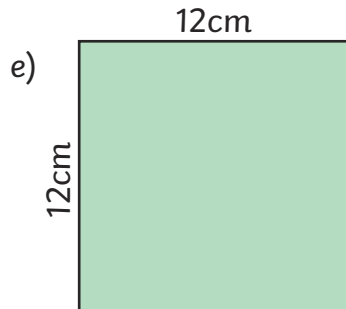


$$\boxed{\phantom{00}} \times \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

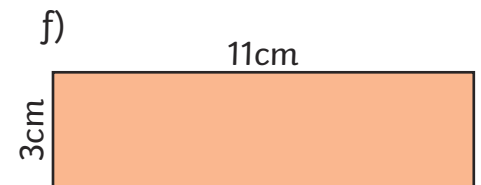
Area =  



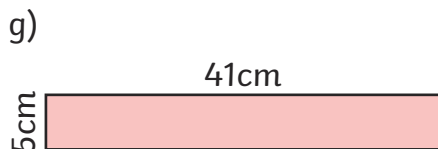
Area =  



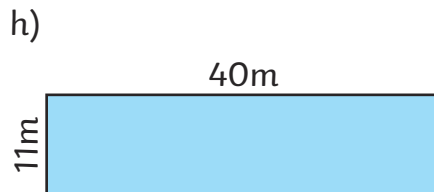
Area =  



Area =  



Area =  



Area =  



Area =  

shapes not to scale

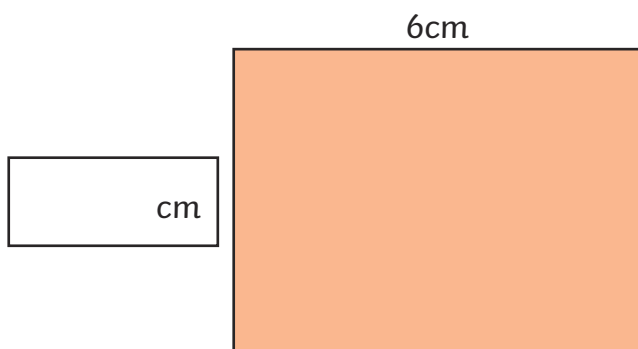
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shapes not to scale

2) This shape has an area of  $30\text{cm}^2$ .

a) Find the missing measurement.

b) Use mathematical reasoning to explain how you calculated the answer.



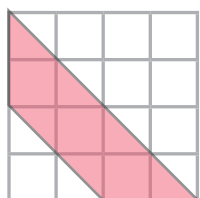

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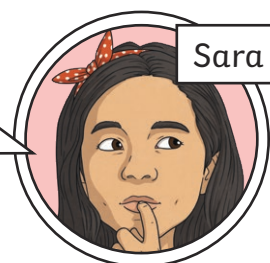
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3) What mistake has Sara made? Correct Sara's area calculation, giving reasons to explain where she went wrong.



Area =   $\text{cm}^2$

The shaded shape has an area of  $9\text{cm}^2$ .



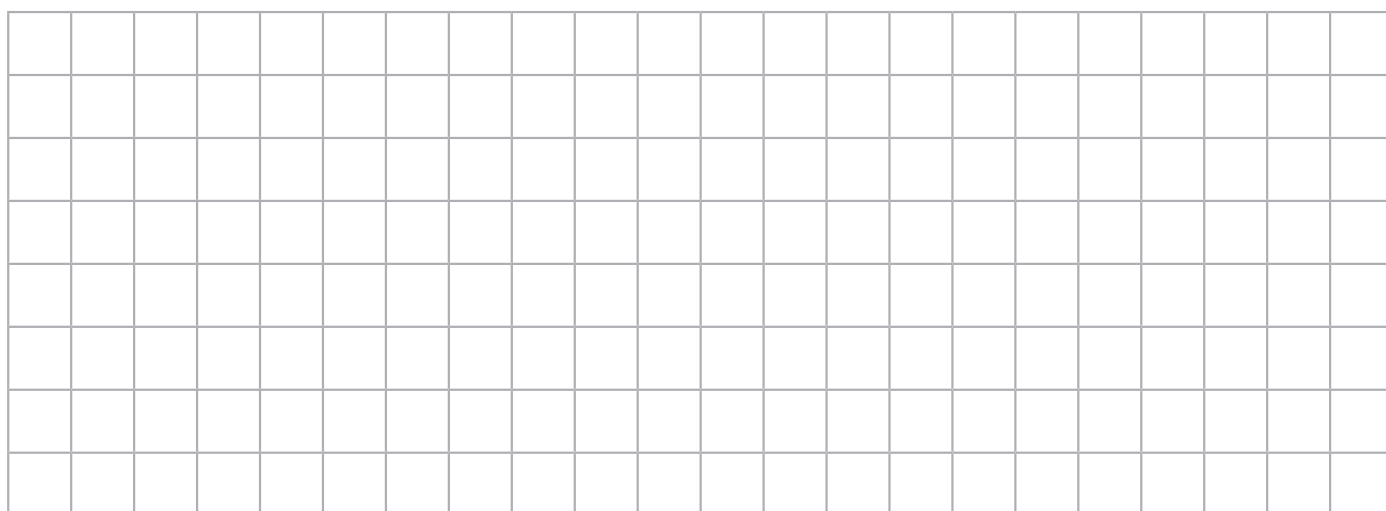
Sara

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4) Investigate how many different ways you can draw a square or rectangle with an area of  $9\text{m}^2$ . Label the different lengths and widths.

1 square =  $1\text{m}^2$



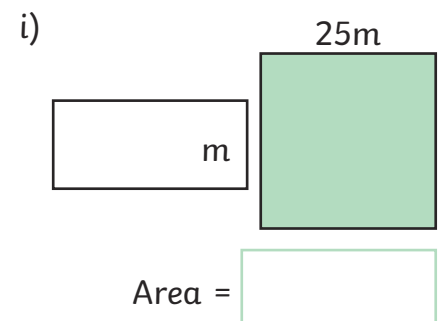
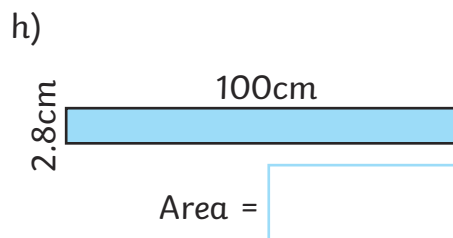
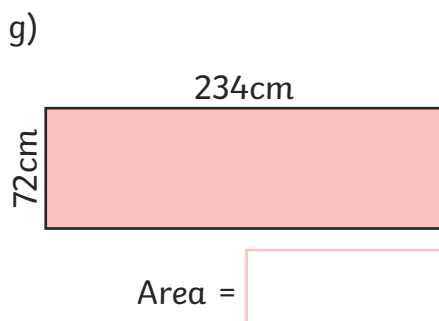
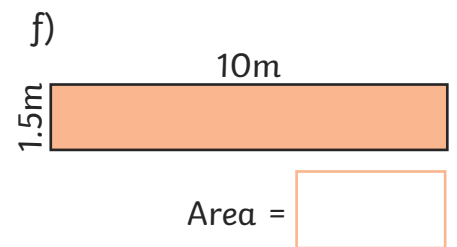
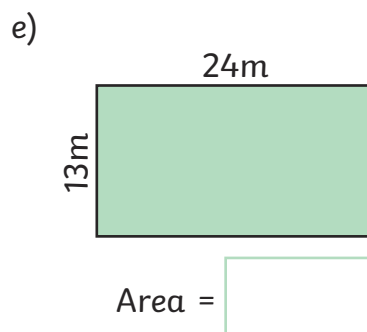
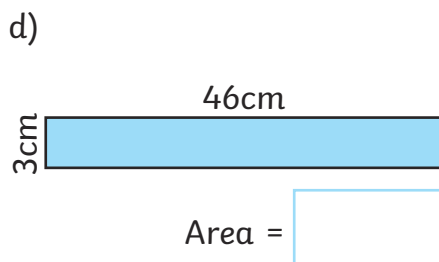
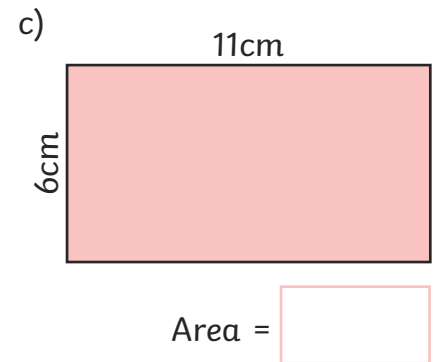
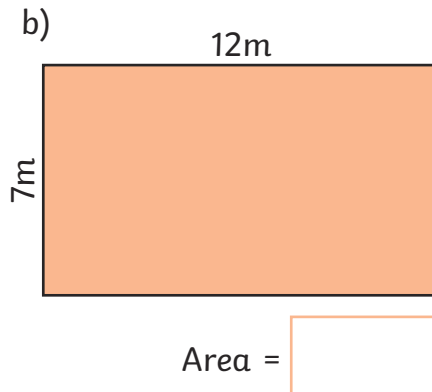
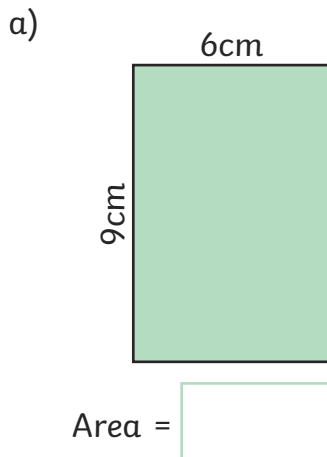
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# Area of Rectangles

To calculate the area of rectangles and squares.



- 1) Calculate the area of the following shapes by multiplying the **length** by the **width**. Remember to give your answer in **cm<sup>2</sup>** or **m<sup>2</sup>**.



shapes not to scale

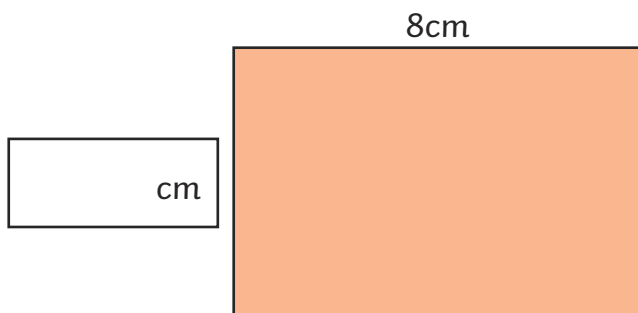
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shapes not to scale

2) This shape has an area of  $56\text{cm}^2$ .

a) Find the missing measurement.

b) Use mathematical reasoning to explain how you calculated the answer.




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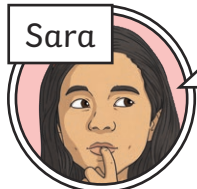
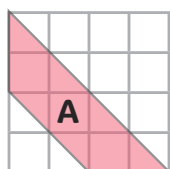
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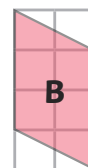
3) Sara and Ajani are comparing the area of two shapes, **A** and **B**. Who is correct?

Explain your answer.



Shape **A** has a larger area than shape **B** because the squared paper grid shows more smaller shapes (9) than shape B (8).

Shape **B** has a larger area than shape **A** because the squared paper grid shows more complete squares (4) than shape A (3).




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4) What are the missing measurements of the rectangles below?

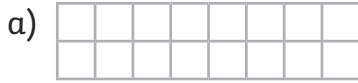
a)	b)	c)
<p>3cm</p> <p>Area = <math>24\text{cm}^2</math></p> <p>cm</p>	<p>Area = <math>12\text{m}^2</math></p> <p>m</p> <p>m</p>	<p>Area = <math>15\text{km}^2</math></p> <p>km</p> <p>km</p>
1 square = $1\text{cm}^2$	1 square = $1\text{m}^2$	1 square = $1\text{km}^2$

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# Answers

1) Count the squares to calculate the area of these shapes:

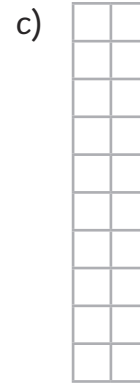
shapes not to scale



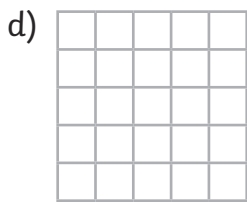
$16\text{cm}^2$



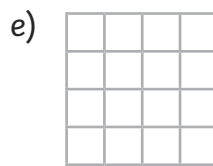
$15\text{cm}^2$



$20\text{cm}^2$



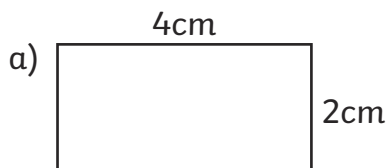
$25\text{cm}^2$



$16\text{cm}^2$

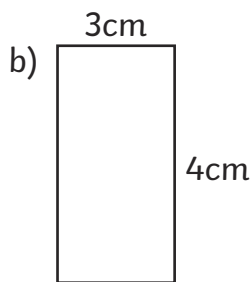


2) Calculate the area of the following shapes by multiplying the **length** by the **width**. Remember to give your answer in  $\text{cm}^2$ .



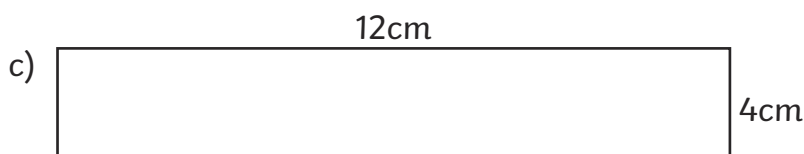
$$\boxed{4} \times \boxed{2} = \boxed{8}$$

Area =  $\boxed{8\text{cm}^2}$



$$\boxed{4} \times \boxed{3} = \boxed{12}$$

Area =  $\boxed{12\text{cm}^2}$



$$\boxed{12} \times \boxed{4} = \boxed{48}$$

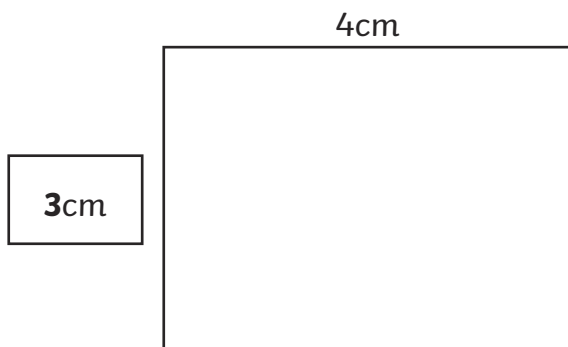
Area =  $\boxed{48\text{cm}^2}$

3) This shape has an area of  $12\text{cm}^2$ .

shapes not to scale

a) Find the missing measurement.

b) Use mathematical reasoning to explain how you calculated the answer.



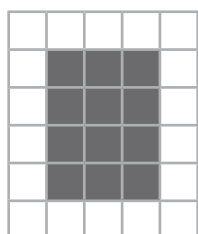
I know that  $\text{area} = \text{length} \times \text{width}$ , so  $12 = 4 \times ?$

To find the ? I need to work out:  
'how many 4s make 12?'

The answer is 3 fours make 12. So the missing measurement is 3cm. I can check this by substituting in 3cm into the formula I used at the start, so:

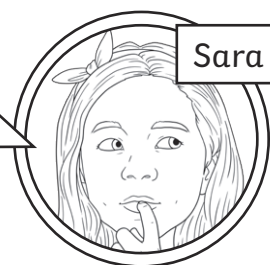
$12 = 4 \times 3$ . Yes, this is correct!

4) What mistake has Sara made? Correct Sara's area calculation, giving reasons to explain where she went wrong.



Area =  $12\text{cm}^2$

This shape has an area of  $8\text{cm}^2$ .



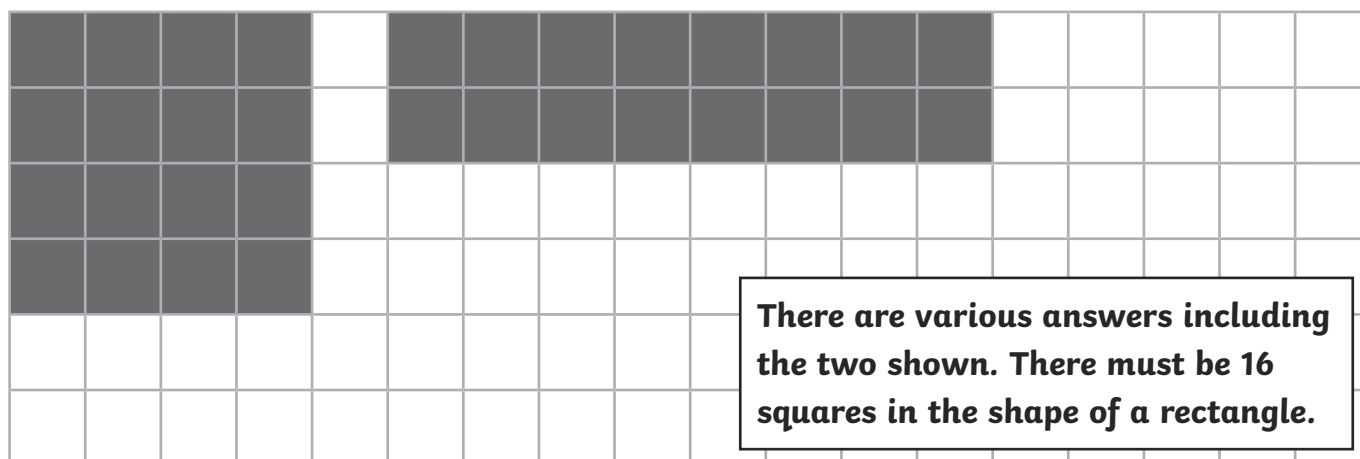
The mistake Sara has made is forgetting to count one column of four centimetre squares. She's only counted the first 2 columns, making 8.

5)

1 square =  $1\text{cm}^2$

a) Draw a square with an area of  $16\text{cm}^2$ .

b) Draw a rectangle with an area of  $16\text{cm}^2$ .



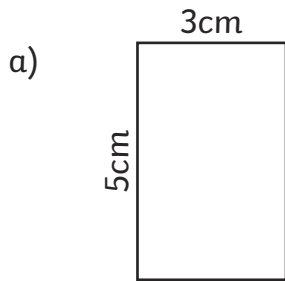
There are various answers including the two shown. There must be 16 squares in the shape of a rectangle.

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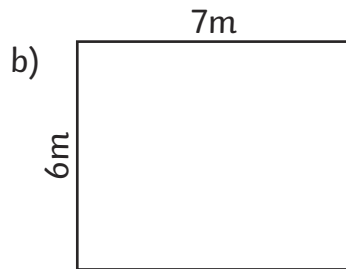
# Answers

- 1) Calculate the area of the following shapes by multiplying the **length** by the **width**. Remember to give your answer in **cm<sup>2</sup>** or **m<sup>2</sup>**.



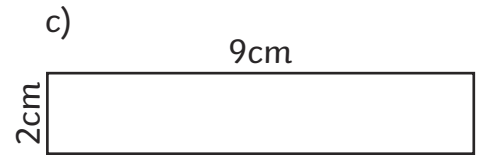
$$\boxed{5} \times \boxed{3} = \boxed{15}$$

Area = **15cm<sup>2</sup>**



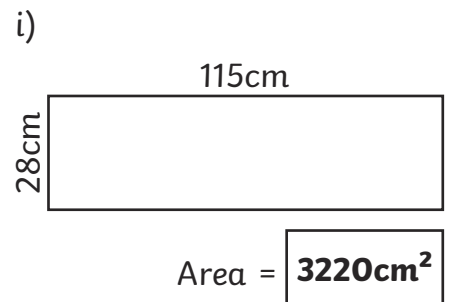
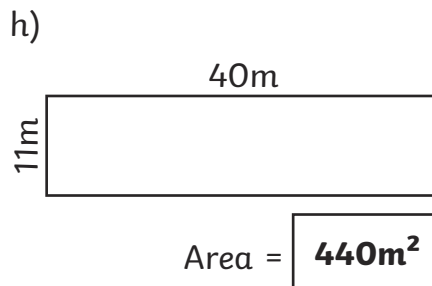
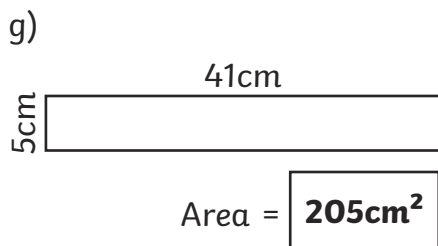
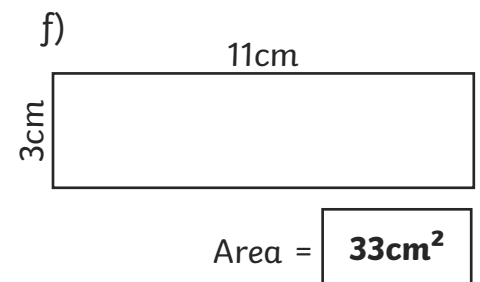
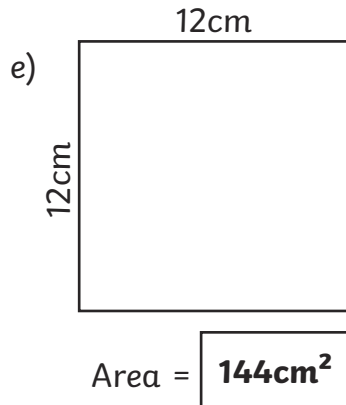
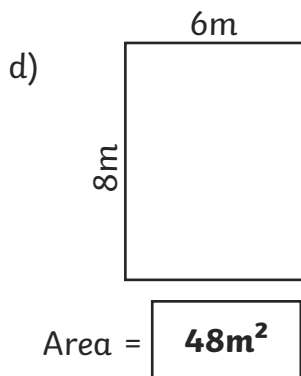
$$\boxed{7} \times \boxed{6} = \boxed{42}$$

Area = **42m<sup>2</sup>**



$$\boxed{9} \times \boxed{2} = \boxed{18}$$

Area = **18cm<sup>2</sup>**



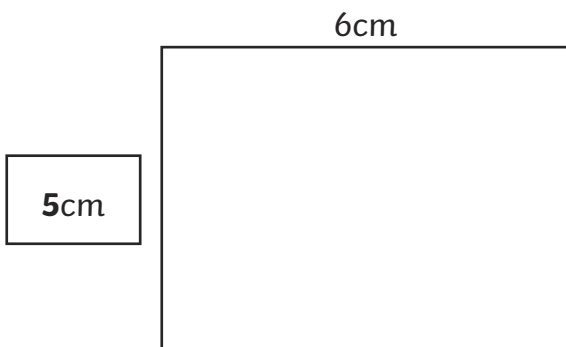
shapes not to scale

2) This shape has an area of  $30\text{cm}^2$ .

shapes not to scale

a) Find the missing measurement.

b) Use mathematical reasoning to explain how you calculated the answer.



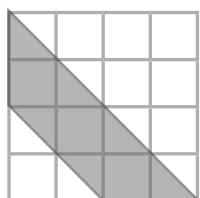
I know that  $\text{area} = \text{length} \times \text{width}$ , so  $30 = 6 \times ?$

To find the ? I need to work out:  
'how many 6s make 30?'

The answer is 5 sixes make 30. So the missing measurement is 5cm. I can check this by substituting in 5cm into the formula I used at the start, so:

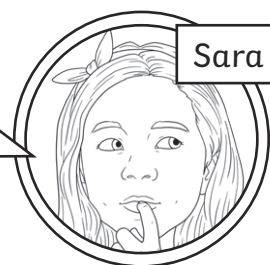
$30 = 6 \times 5$ . Yes, this is correct!

3) What mistake has Sara made? Correct Sara's area calculation, giving reasons to explain where she went wrong.



Area =  $6\text{cm}^2$

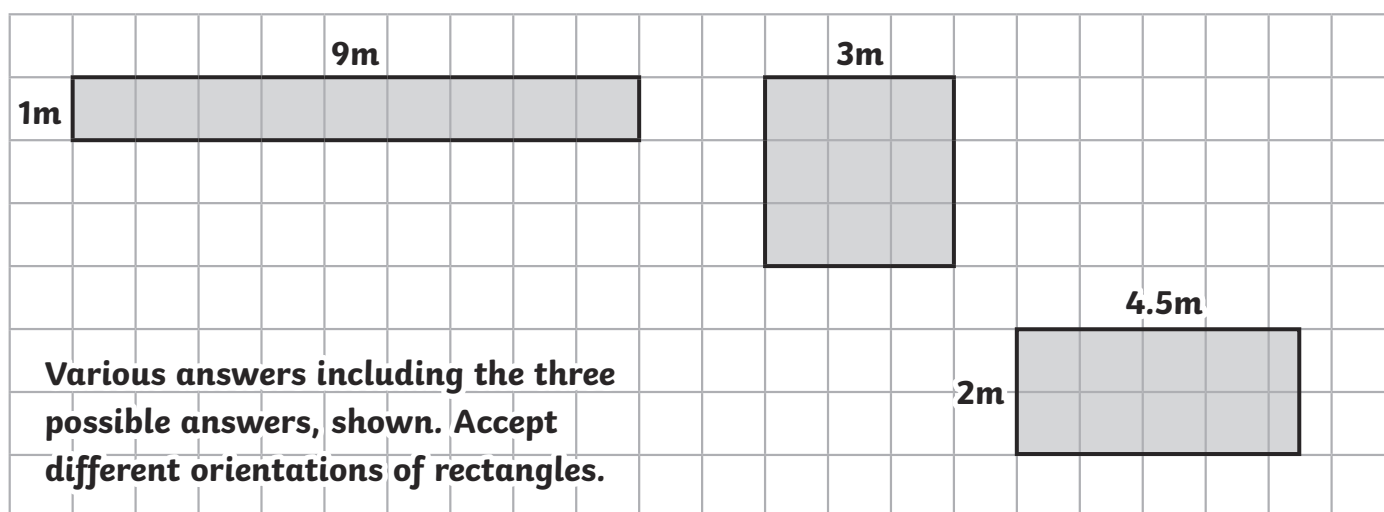
The shaded shape has an area of  $9\text{cm}^2$ .



The mistake Sara has made is counting each part of a square as a whole square. For example, she's counted each triangle (which only represents  $\frac{1}{2}$  a square) as one whole square/ $\text{cm}^2$ .

4) Investigate how many different ways you can draw a square or rectangle with an area of  $9\text{m}^2$ . Label the different lengths and widths.

1 square =  $1\text{m}^2$

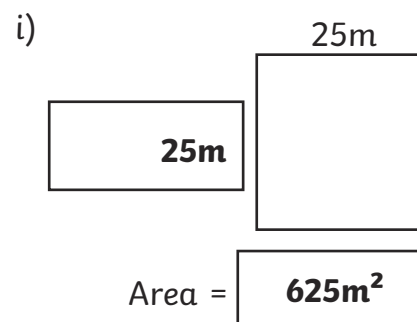
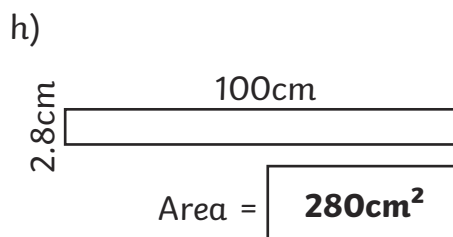
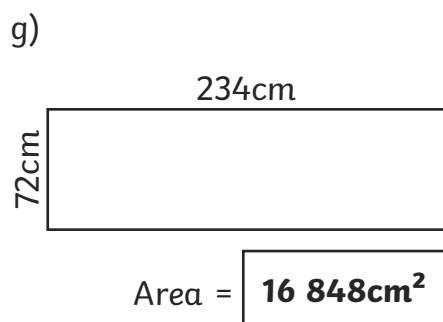
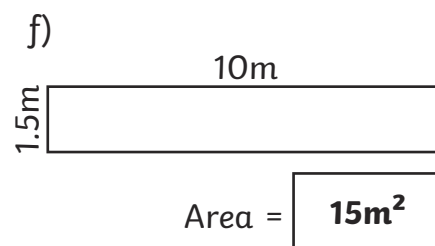
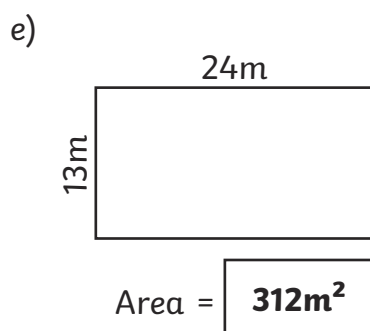
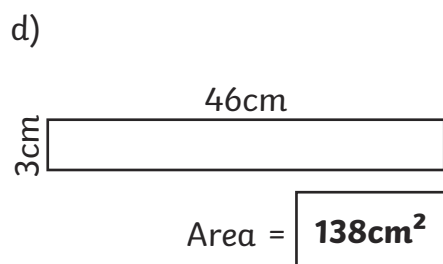
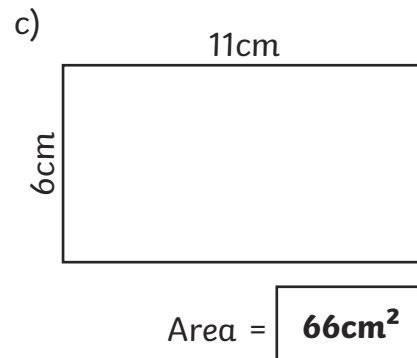
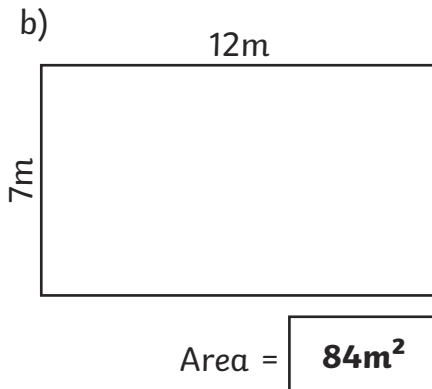
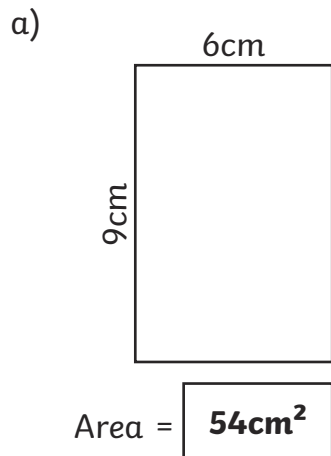


Various answers including the three possible answers, shown. Accept different orientations of rectangles.

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# Answers

- 1) Calculate the area of the following shapes by multiplying the **length** by the **width**. Remember to give your answer in **cm<sup>2</sup>** or **m<sup>2</sup>**.



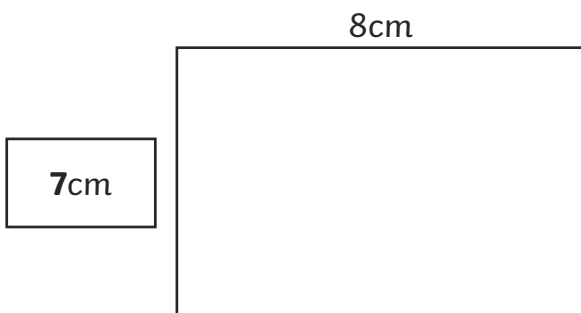
shapes not to scale

2) This shape has an area of  $56\text{cm}^2$ .

shapes not to scale

a) Find the missing measurement.

b) Use mathematical reasoning to explain how you calculated the answer.



I know that  $\text{area} = \text{length} \times \text{width}$ , so  $56 = 8 \times ?$

To find the ? I need to work out:

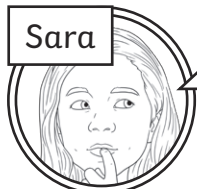
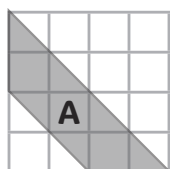
'how many 8s make 56?'

The answer is 7 eights make 56. So the missing measurement is 7cm. I can check this by substituting in 7cm into the formula I used at the start, so:

$56 = 8 \times 7$ . Yes, this is correct!

3) Sara and Ajani are comparing the area of two shapes, **A** and **B**. Who is correct?

Explain your answer.



Shape **A** has a larger area than shape **B** because the squared paper grid shows more smaller shapes (9) than shape B (8).



Shape **B** has a larger area than shape **A** because the squared paper grid shows more complete squares (4) than shape A (3).

**Both Sara and Ajani are incorrect since neither shape has a bigger area than the other – each shape has the same area. If you count up all the half squares, as well as the whole squares, each shape has an area of  $6\text{cm}^2$ .**

4) What are the missing measurements of the rectangles below?

a)	b)	c)
1 square = $1\text{cm}^2$	1 square = $1\text{m}^2$	1 square = $1\text{km}^2$

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