

Step 3: Area of Rectangles

Introduction

All these rectangles have a perimeter of 36cm.

14cm



15cm



7cm

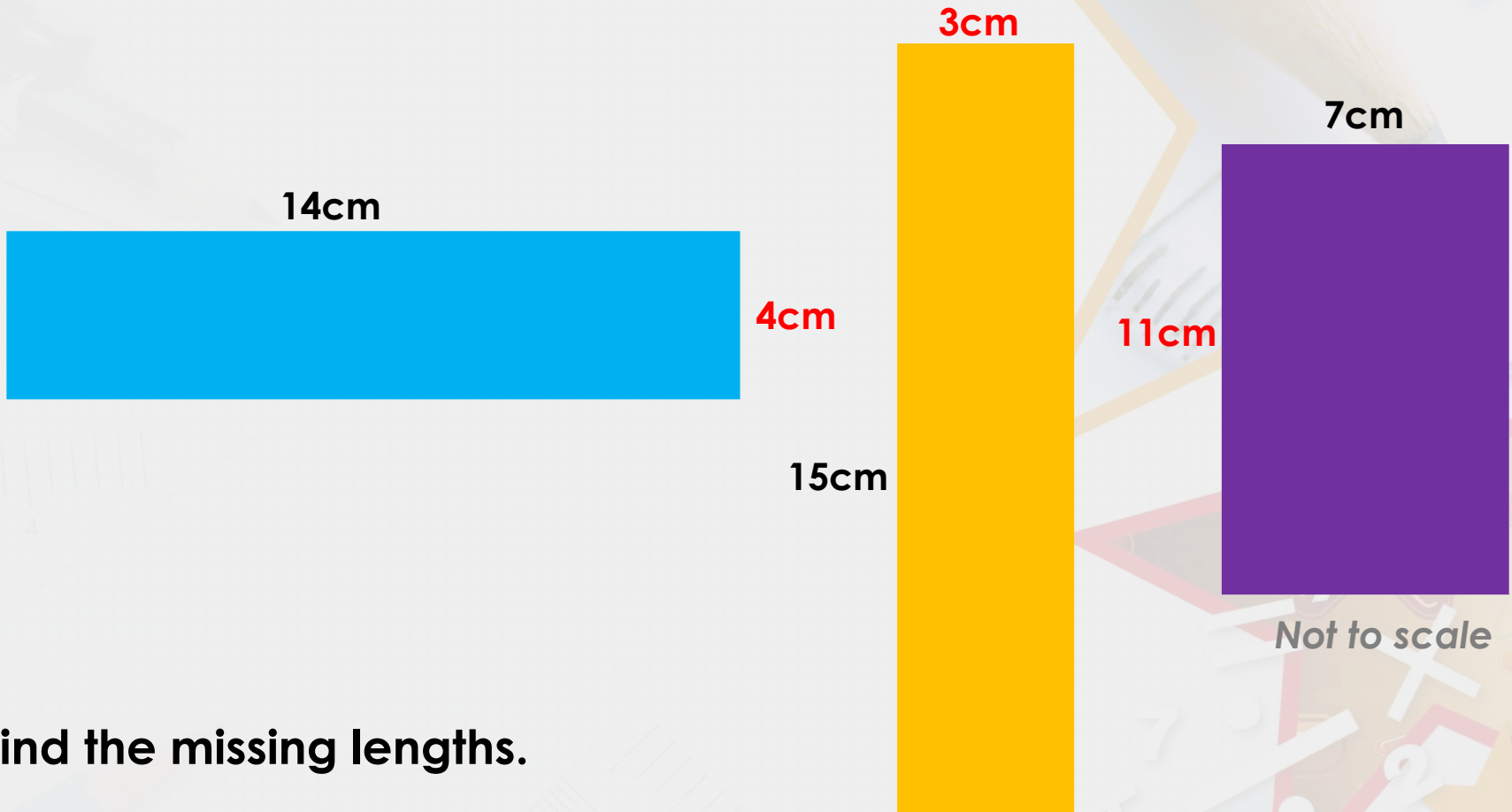


Not to scale

Find the missing lengths.

Introduction

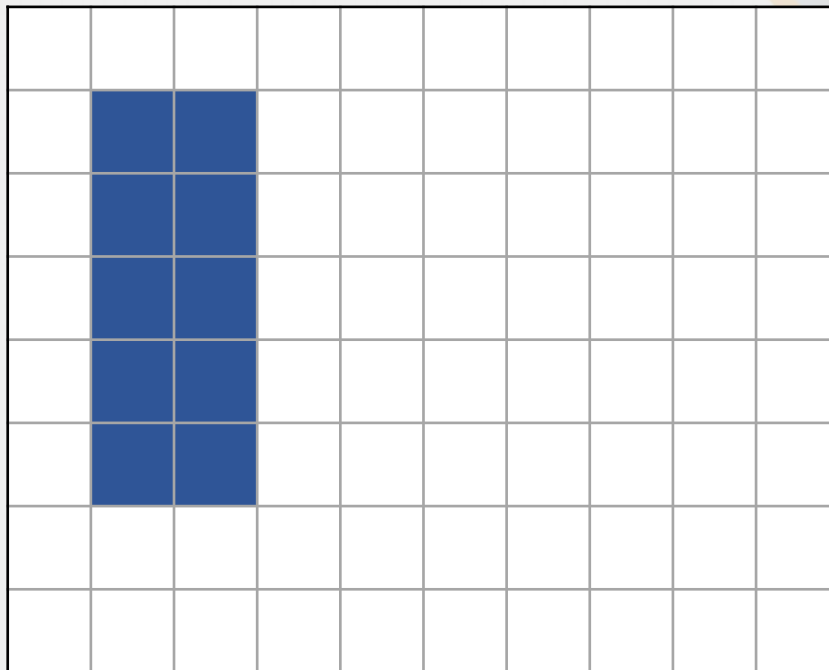
All these rectangles have a perimeter of 36cm.



Find the missing lengths.

Varied Fluency 1

Complete the shape to make a rectangle with an area of 40cm^2 .

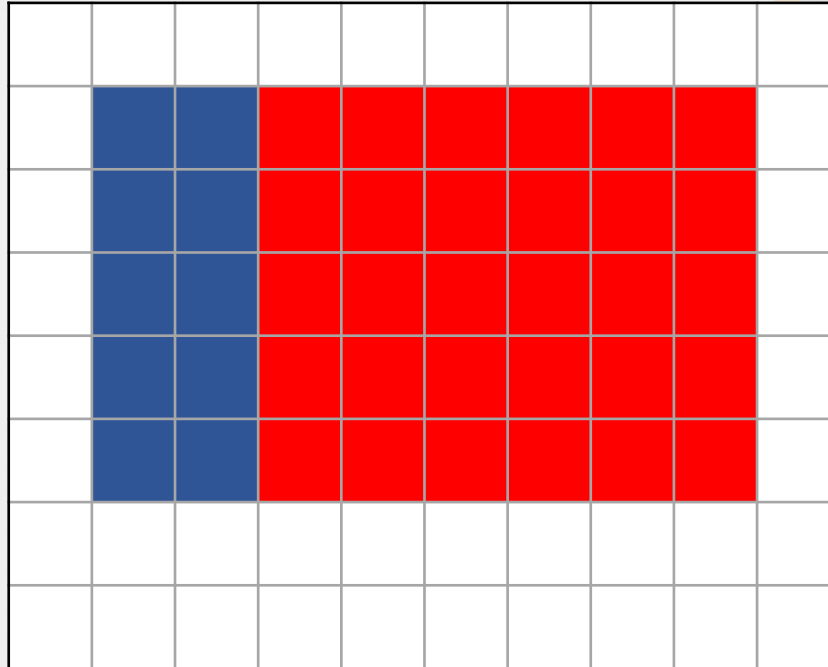


Not to scale

Write down the calculation used to show the length and width of the rectangle.

Varied Fluency 1

Complete the shape to make a rectangle with an area of 40cm^2 .



Not to scale

Write down the calculation used to show the length and width of the rectangle.

5cm x 8cm (30 more squares to be shaded)

Varied Fluency 2

Calculate the estimated area of the rectangle.



Not to scale

Varied Fluency 2

Calculate the estimated area of the rectangle.

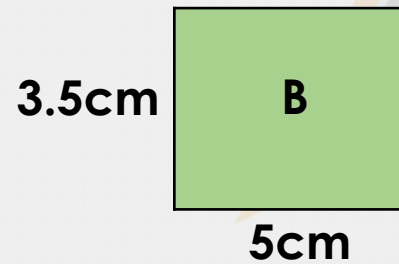


Not to scale

$$4\text{cm} \times 8\text{cm} = 32\text{cm}^2$$

Varied Fluency 3

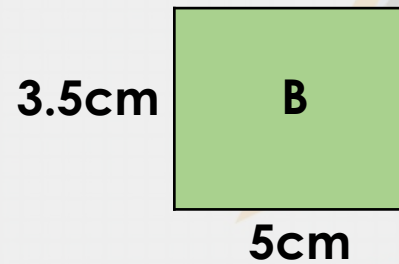
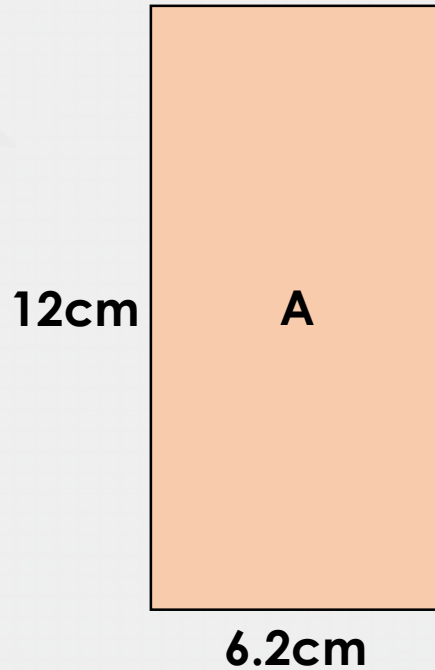
Calculate the total area of both rectangles. Round to estimate where necessary.



Not to scale

Varied Fluency 3

Calculate the total area of both rectangles. Round to estimate where necessary.

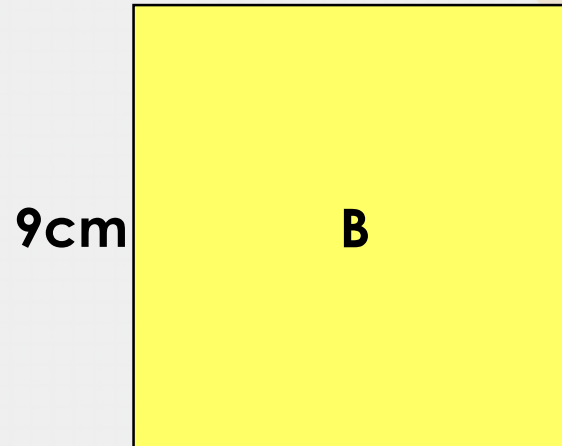
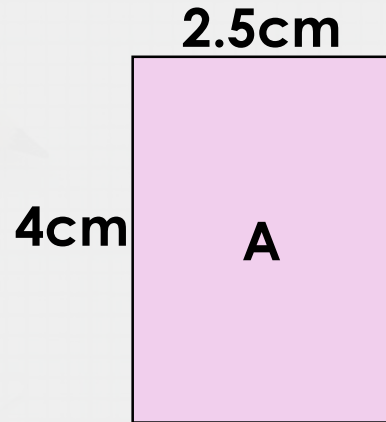


Not to scale

A: $6\text{cm} \times 12\text{cm} = 72\text{cm}^2$; B: $4\text{cm} \times 5\text{cm} = 20\text{cm}^2$; total area: $72\text{cm}^2 + 20\text{cm}^2 = 92\text{cm}^2$

Varied Fluency 4

Match the shape to the correct estimated area.



Not to scale

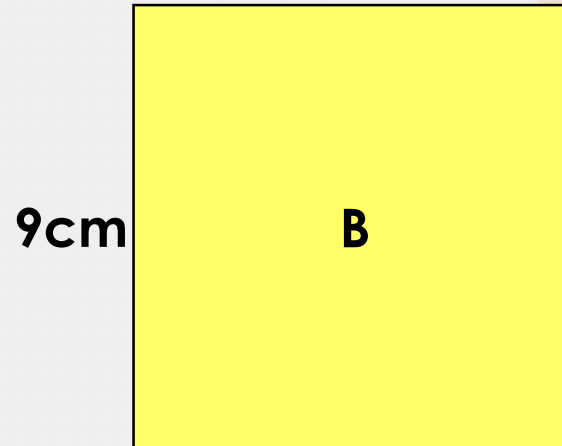
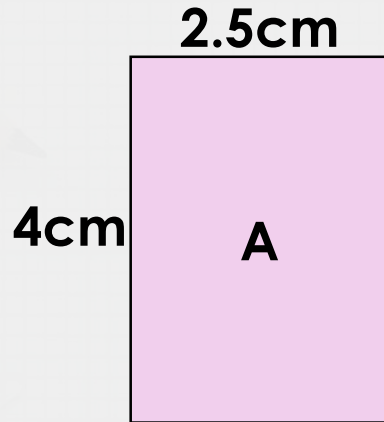
81cm²

12cm²

8cm²

Varied Fluency 4

Match the shape to the correct estimated area.



Not to scale

81cm²

12cm²

8cm²

Reasoning 1

**Louise is buying carpet tiles for the upstairs of her house.
The area of each tile is 2m^2 .**



Not to scale

**Louise thinks she needs to order 54 tiles.
Is she correct? Explain your answer.**

Reasoning 1

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Not to scale

Louise thinks she needs to order 54 tiles.
Is she correct? Explain your answer.

She is incorrect because...

Reasoning 1

Louise is buying carpet tiles for the upstairs of her house.
The area of each tile is 2m^2 .




Not to scale

Louise thinks she needs to order 54 tiles.
Is she correct? Explain your answer.

**She is incorrect because she has found the area of the upstairs, but she needed to divide the area by 2 because the tiles are 2m^2 .
 $54\text{m}^2 \div 2\text{m}^2 = 27$ so Louise needed 27 tiles.**

Problem Solving 1

A rectangle has an area of 48cm^2 . What could the dimensions be?

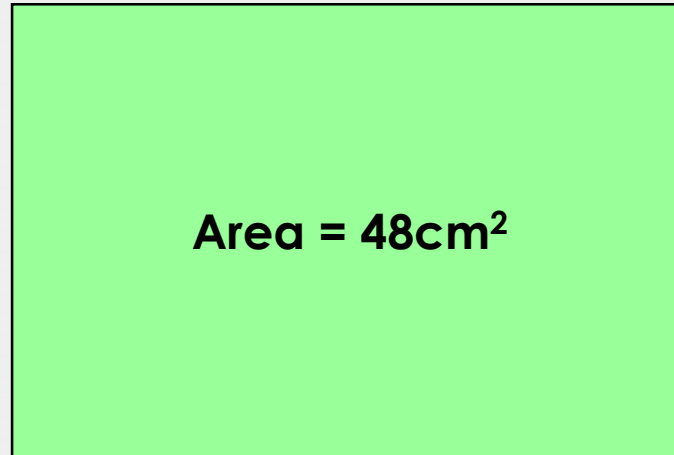

$$\text{Area} = 48\text{cm}^2$$

Not to scale

Find 3 possible answers.

Problem Solving 1

A rectangle has an area of 48cm^2 . What could the dimensions be?



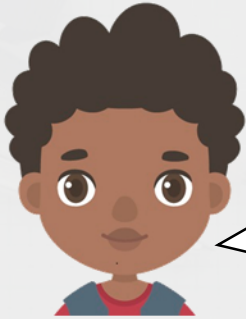
Not to scale

Find 3 possible answers.

Various answers, for example: $8\text{cm} \times 6\text{cm}$, $24\text{cm} \times 2\text{cm}$, $12\text{cm} \times 4\text{cm}$

Reasoning 2

Francis has estimated the area of a square.



The area of this square is 36cm^2 . because $9\text{cm} \times 4 = 36\text{cm}^2$.

9.1cm

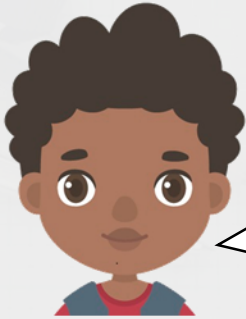


Not to scale

Is Francis correct? Prove it.

Reasoning 2

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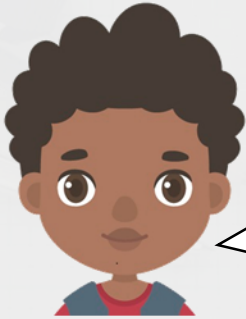
Not to scale

Is Francis correct? Prove it.

Francis is incorrect because...

Reasoning 2

Francis has estimated the area of a square.



The area of this square is 36cm^2 . because $9\text{cm} \times 4 = 36\text{cm}^2$.

9.1cm



Not to scale

Is Francis correct? Prove it.

Francis is incorrect because he has found the perimeter of the square by multiplying by 4. He should have multiplied 9 by 9 to get 81cm^2 .