

AREA - DAY 4

Reasoning and Problem Solving

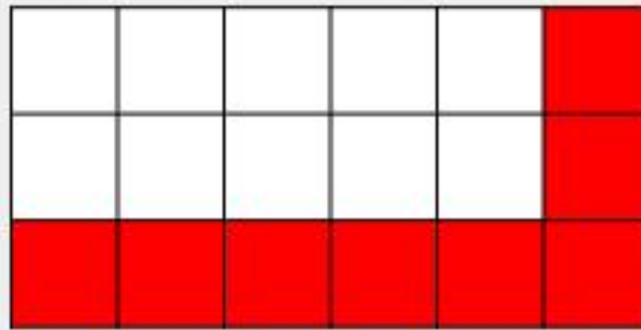
LO: I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Reasoning

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Alice has started carpeting a room with carpet tiles.



I need 10 more tiles to finish my room.

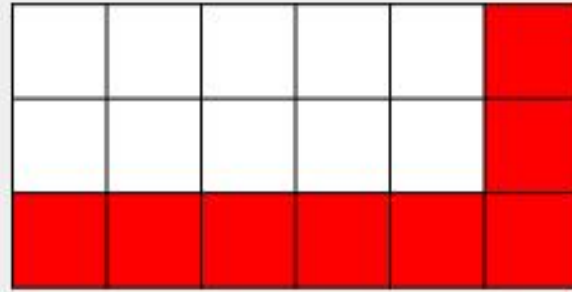
Is she correct? Explain your answer.

Reasoning

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Alice has started carpeting a room with carpet tiles.



I need 10 more tiles to finish my room.

Is she correct? Explain your answer.

Alice is correct because there are 2 rows of 5 tiles missing, which is 10 tiles altogether.

Reasoning

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Max says,



The area of this rectangle is 36cm².

9cm



Explain Max's mistake.

Reasoning

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Max says,



The area of this rectangle is 36cm².

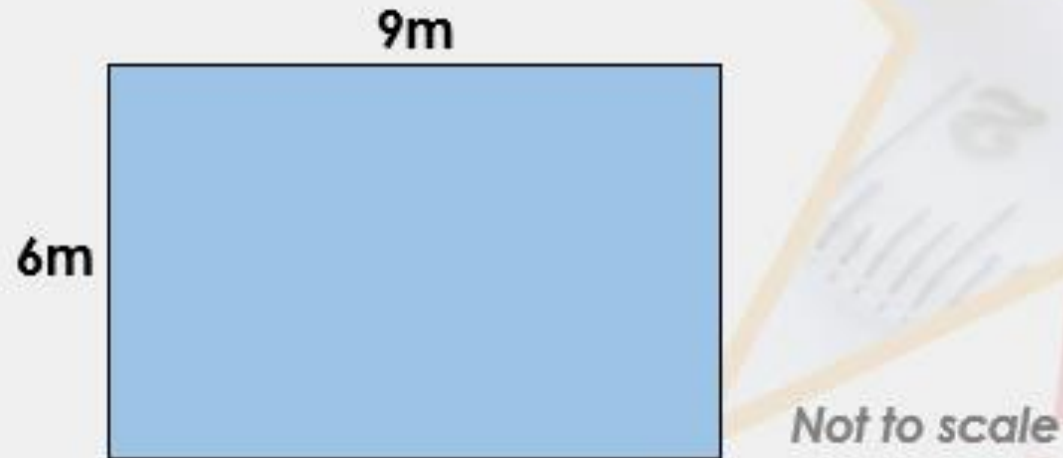
9cm



Explain Max's mistake.

Reasoning

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



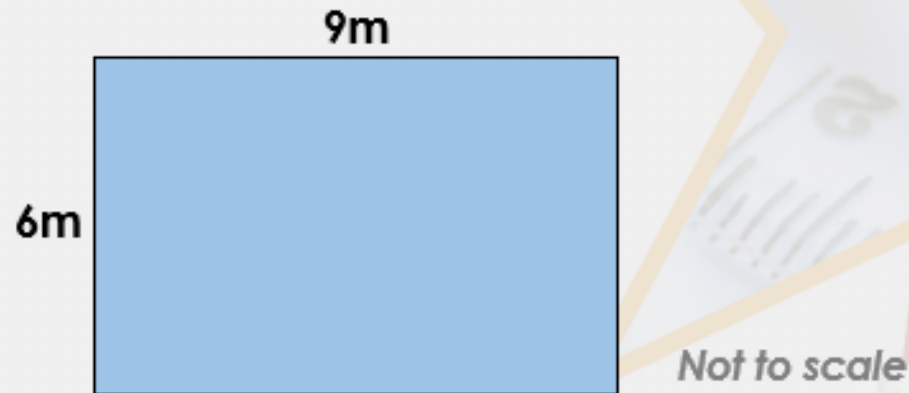
Louise thinks she needs to order 54 tiles.
Is she correct? Explain your answer.

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm^2) and square metres (m^2).

Reasoning

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



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.**

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm^2) and square metres (m^2).

Reasoning

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Francis has estimated the area of a square.



The area of this square is 36cm². because
 $9\text{cm} \times 4 = 36\text{cm}^2$.

9.1cm



Not to scale

Is Francis correct? Prove it.

Reasoning

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Francis has estimated the area of a square.



The area of this square is 36cm². because $9\text{cm} \times 4 = 36\text{cm}^2$.

9.1cm



Not to scale

Is Francis correct? Prove it.

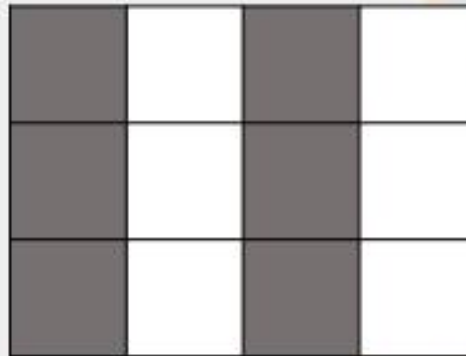
Francis is incorrect because he has found the perimeter of the square by multiplying by 4. He should have multiplied 9 by 9 to get 81cm².

PROBLEM SOLVING

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Billy is making patterns using bricks.



He continues his pattern so it is 5 squares across and 4 squares up.

How many white bricks has he used?

How many grey bricks has he used?

PROBLEM SOLVING

Billy is making patterns using bricks.



He continues his pattern so it is 5 squares across and 4 squares up.

How many white bricks has he used? **8**

How many grey bricks has he used? **12**

LO:

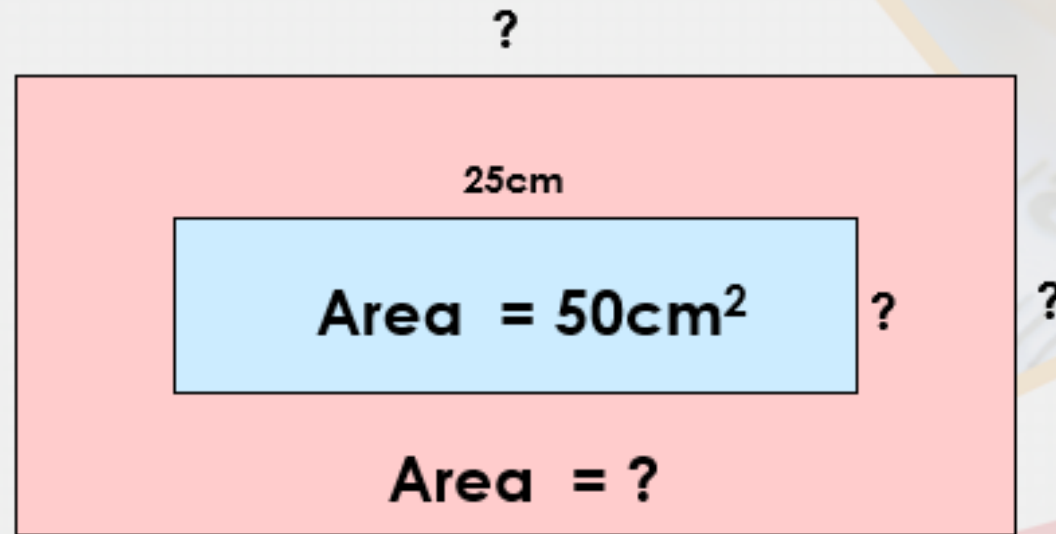
I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

PROBLEM SOLVING

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Using the information, calculate the area of the larger rectangle.



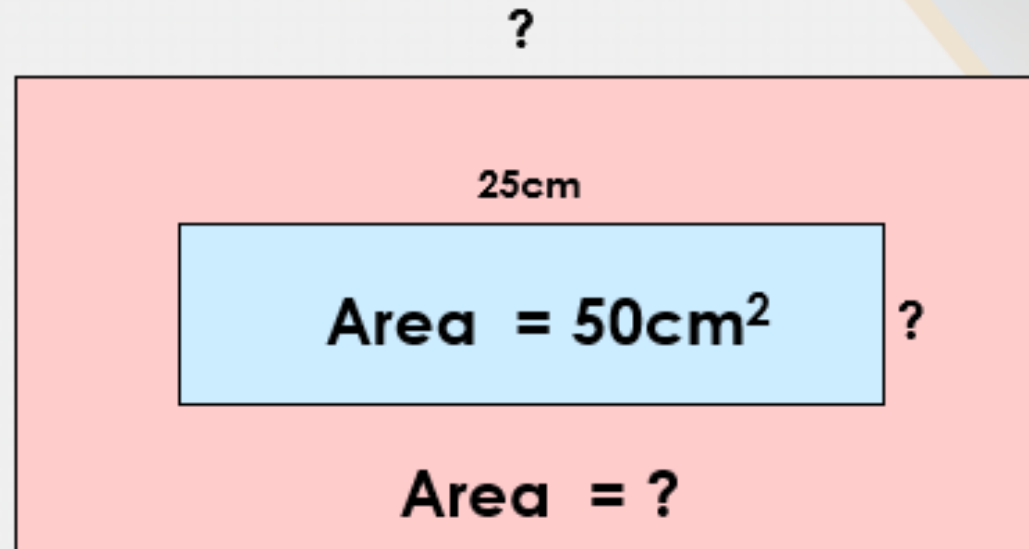
The larger rectangle has sides that are twice as long as the smaller one.

PROBLEM SOLVING

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

Using the information, calculate the area of the larger rectangle.



The larger rectangle has sides that are twice as long as the smaller one.

The smaller rectangle has sides of 25cm x 2cm.
The larger rectangle has sides of 50cm x 4cm.
Area of larger rectangle = 200cm².

Your Task...

REASONING AND PROBLEM SOLVING

Choose which of the following tasks you wish to complete.

Each group's worksheet is on the Home Learning Page.

LO:

I can calculate the area of rectangles, including using standard units, square centimetres (cm²) and square metres (m²).

