

# Area

## Consolidation Task

Your school is undergoing an exciting refurbishment which includes the installation of a new mural. Every child in school has been asked to draw a design for the new mural. Miss Smith, the headteacher, will be selecting the winning design but she has asked the school council for some help ironing out some of the details. Quick – Miss Smith is calling for you now – you had best make your way to her office!



1. Miss Smith has asked you and some of the other school council members to measure the area of the wall where the mural will be placed. However, the others cannot seem to agree on how to measure the area.



Emi

The area is how high the wall is.



Felix

The area is the number of steps along the wall.



Lucas

Area is to do with counting the bricks.

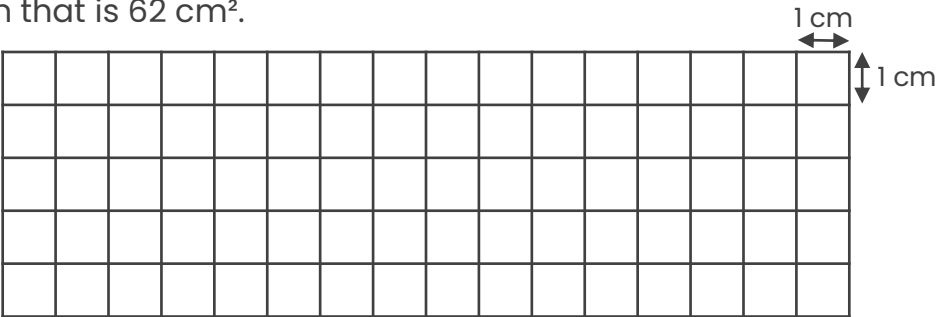
Do you agree with any of the children? Explain how to measure area.

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2. Miss Smith shows you how to measure the area of the wall. You realise your original design was too big! If you're quick, you can submit a new design!

Create a design that is 62 cm<sup>2</sup>.

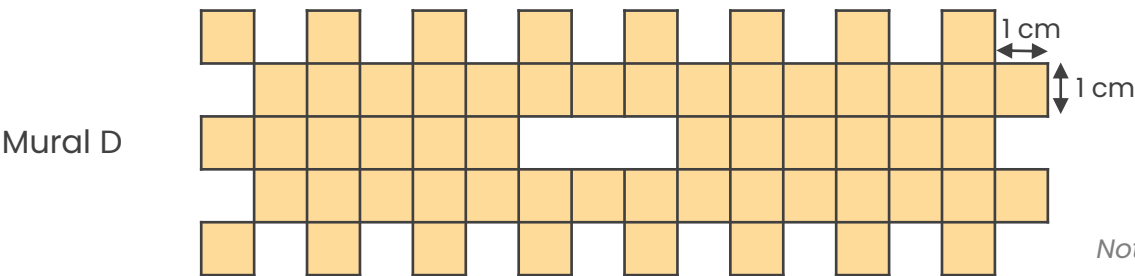
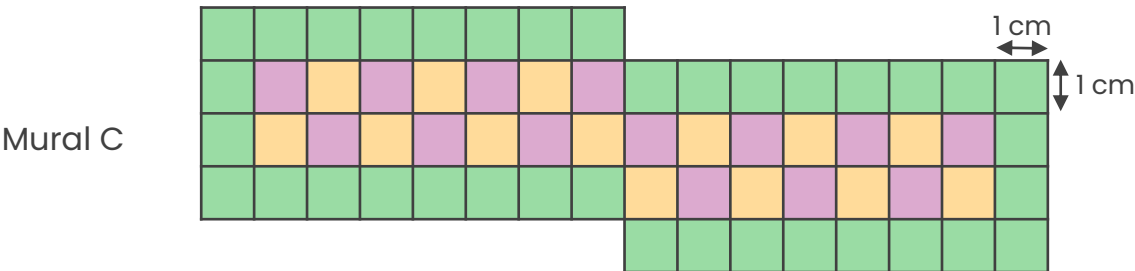
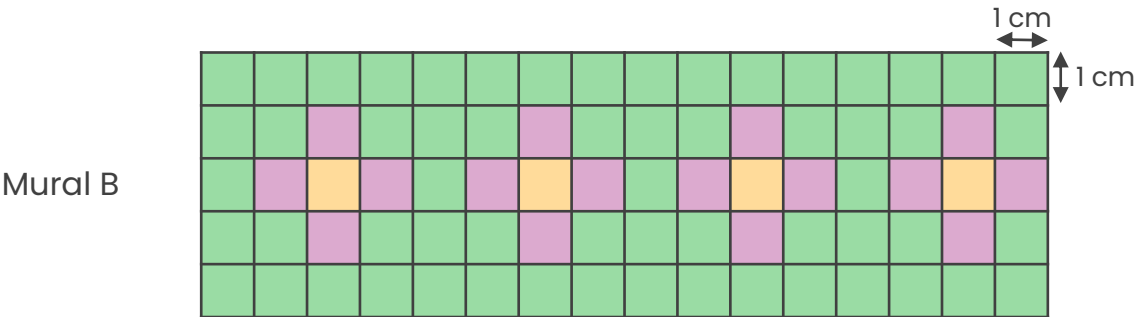
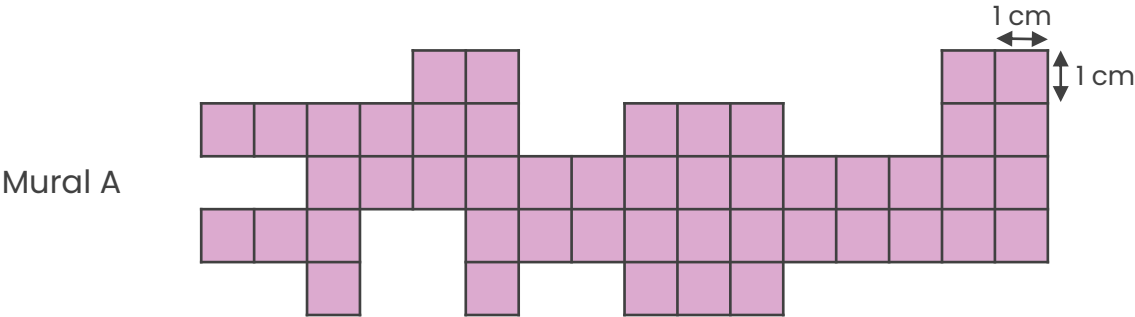


Not to scale

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3. You submitted your design just in time: Miss Smith has chosen the top five mural designs and it includes yours! Nevertheless, before she can choose a winner, she needs your help to compare the designs.



Not to scale

She now needs to work out how much each design would cost.  
Each 1 cm<sup>2</sup> tile costs 50p.

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All of the murals have been given a letter from A to E so Miss Smith will not know whose mural she picks as the winner – your design is Mural E. The winning mural must be between 60 cm<sup>2</sup> and 75cm<sup>2</sup>.

Complete the table and list the murals in order of area, with 1 being the largest area.

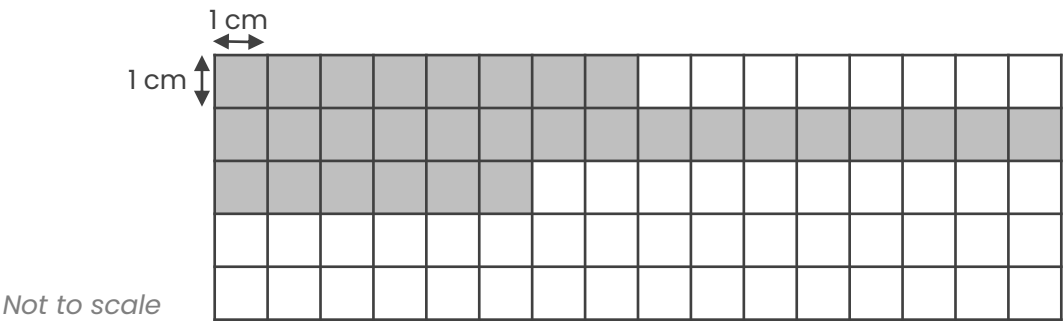
| Order (1 – 5) | Mural | Area (cm <sup>2</sup> ) | Total Cost (£) | ✓ |
|---------------|-------|-------------------------|----------------|---|
| 1             |       |                         |                |   |
| 2             |       |                         |                |   |
| 3             |       |                         |                |   |
| 4             |       |                         |                |   |
| 5             |       |                         |                |   |

4. Miss Smith could not choose a winner, so she has decided to create both murals!

What is the total cost of the chosen murals? \_\_\_\_\_

5. The caretaker has started to put up the murals and completes 15 cm<sup>2</sup> each day.

At the end of the second day, the caretaker completed 30 cm<sup>2</sup> of Mural C. Shade the squares to show what the mural might look like at the end of the third day.

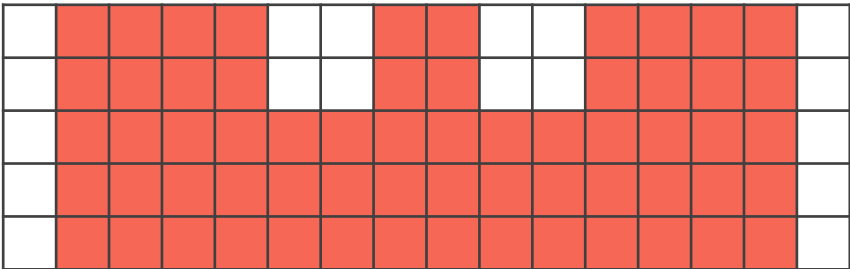


How many days, in total, will it take for the tiler to complete Mural C? \_\_\_\_\_

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1. Various answers, for example: Lucas’s answer is close to being correct but needs more information. The area is the measurement of the surface of a 2D shape. It is measured in unit squares such as centimetre squared (cm<sup>2</sup>).
2. Various answers, for example:



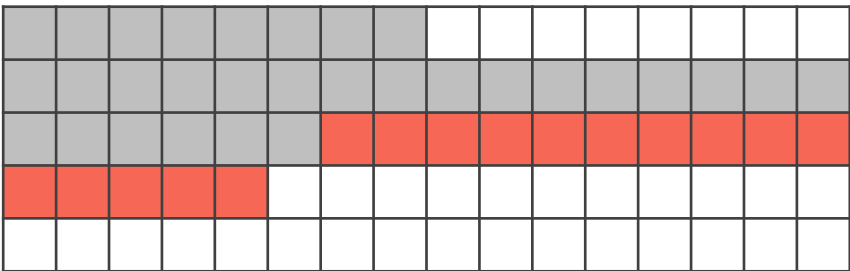
Accept any drawing which has an area of 62 cm<sup>2</sup>.

3.

| Order (1 – 5) | Mural | Area (cm <sup>2</sup> ) | Total Cost (£) | ✓ |
|---------------|-------|-------------------------|----------------|---|
| 1             | B     | 80                      | £40            |   |
| 2             | C     | 64                      | £32            | ✓ |
| 3             | E     | 62                      | £31            | ✓ |
| 4             | D     | 58                      | £29            |   |
| 5             | A     | 48                      | £24            |   |

4. £63

5. Various answers, for example:



Accept any answer which shows 15 more squares shaded.

It will take 5 days in total to complete.