



Area

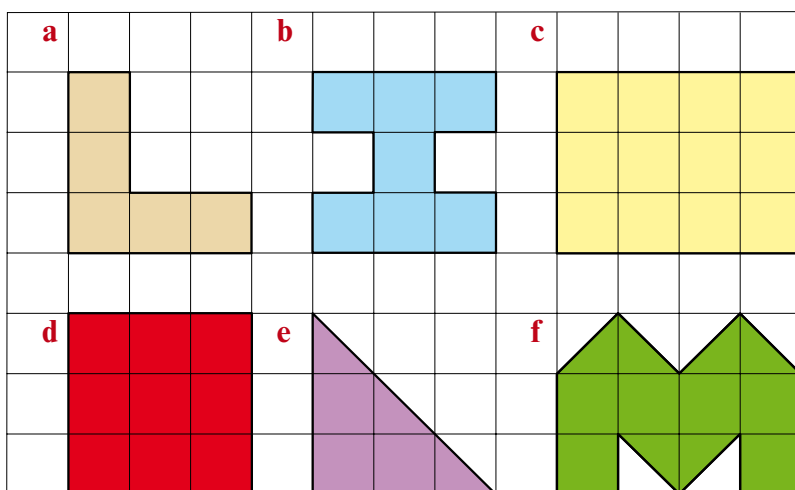
- Finding and estimating areas by counting squares
- Finding the area of a rectangle
- Converting between square centimetres and square millimetres
- Finding the areas of shapes based on rectangles

Keywords

You should know

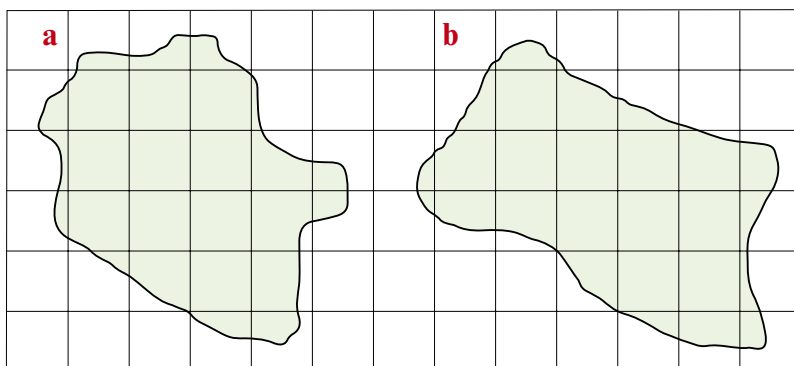
explanation 1

1 Find the area of each shape. Each square on the grid represents 1 cm^2 .



explanation 2

2 Estimate the area of these islands. Each square on the grid represents 1 km^2 .

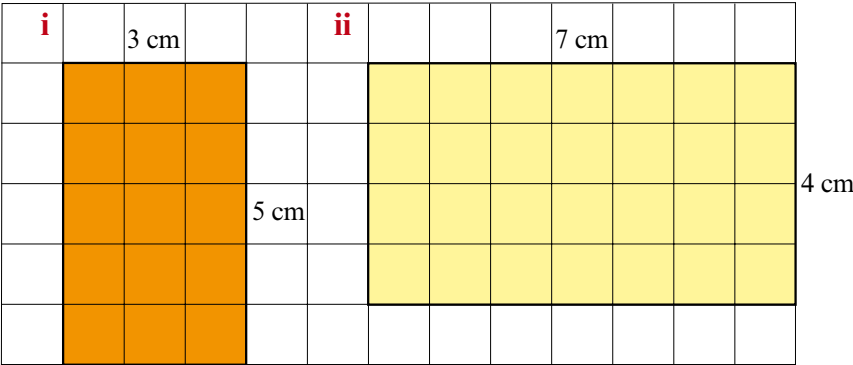


explanation 3

- 3** On centimetre squared paper draw three different shapes that have an area of exactly 12 cm^2 . Use straight lines and make each side a whole number of squares.
- 4 a** On centimetre squared paper draw four different rectangles that have an area of 24 cm^2 . Every side must be a whole number of squares. For example, a rectangle 24 cm long and 1 cm high has an area of 24 cm^2 .
- b** Record the size of each of your rectangles by copying and completing the following table.

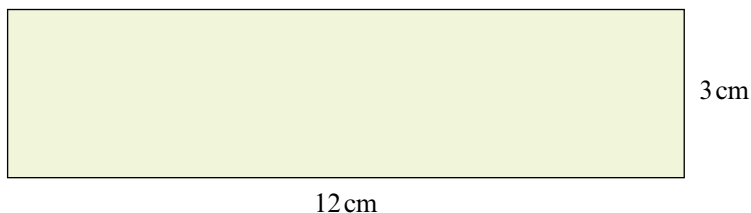
Base (cm)	Height (cm)	Area (cm^2)
24	1	24
		24
		24
		24

- c** How can you find the area of a rectangle if you know the length of the base and the height of the rectangle?
- d** Use your method to find the area of these rectangles. Check your answers by counting the squares.



explanation 4

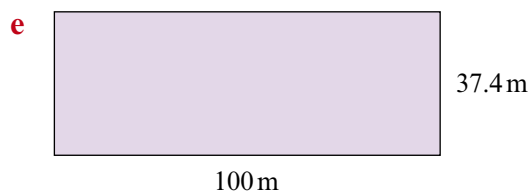
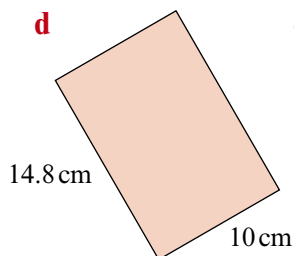
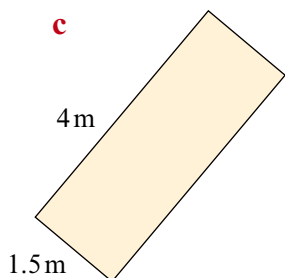
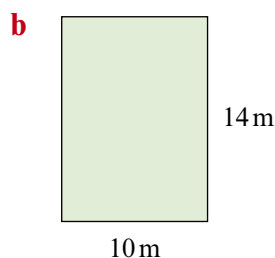
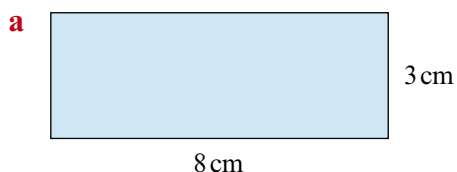
5 a How many centimetre squares would fit inside this rectangle?



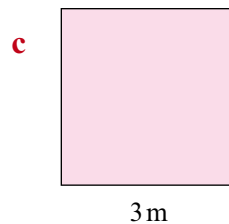
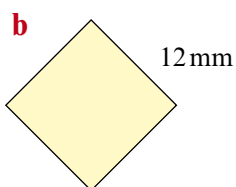
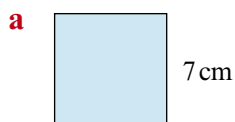
b What is the area of this rectangle?

c Another rectangle with base 9 cm has the same area. What is its height?

6 Work out the area of each rectangle.



7 Find the area of each square.

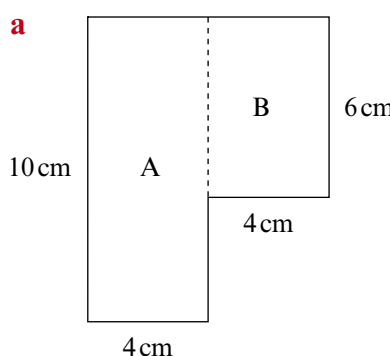


- 8 a** The perimeter of a square is 36 cm. What is the length of each side?
- b** Work out the area of a square with perimeter 36 cm.
- 9 a** The area of a square is 25 m^2 . What is the length of each side?
- b** Work out the perimeter of a square with area 25 m^2 .

explanation 5

- 10** Copy and complete these area calculations.

a

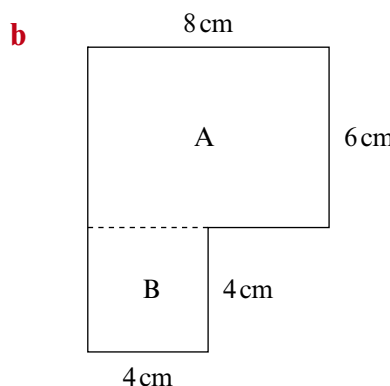


Area A = $4 \text{ cm} \times 10 \text{ cm} = \square \text{ cm}^2$

Area B = $\square \text{ cm} \times \square \text{ cm} = \square \text{ cm}^2$

Total area = $\square \text{ cm}^2$

b



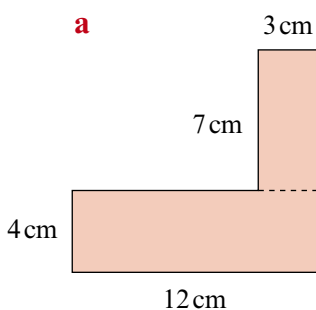
Area A = $\square \text{ cm} \times \square \text{ cm} = \square \text{ cm}^2$

Area B = $\square \text{ cm} \times \square \text{ cm} = \square \text{ cm}^2$

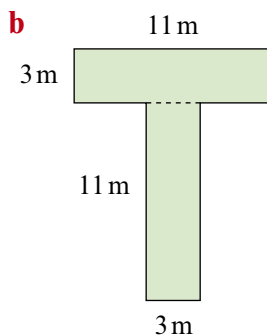
Total area = $\square \text{ cm}^2$

- 11** Work out the area of each shape.

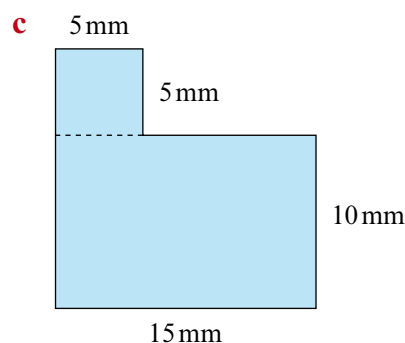
a



b



c



12 a Copy and complete these area calculations.

i

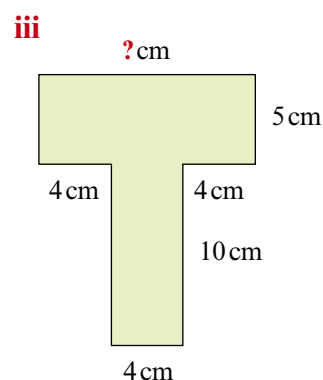
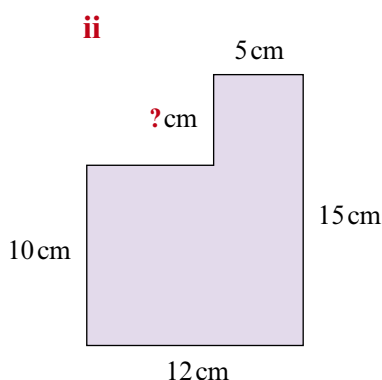
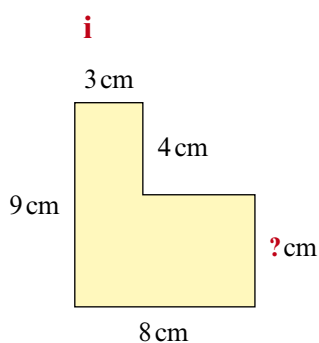
Area A = $2\text{ cm} \times 10\text{ cm} = \square\text{ cm}^2$
 Area B = $\square\text{ cm} \times \square\text{ cm} = \square\text{ cm}^2$
 Total area = $\square\text{ cm}^2$

ii

Length $x = \square\text{ cm}$
 Length $y = \square\text{ cm}$
 Area C = $2\text{ cm} \times \square\text{ cm} = \square\text{ cm}^2$
 Area D = $\square\text{ cm} \times \square\text{ cm} = \square\text{ cm}^2$
 Total area = $\square\text{ cm}^2$

b What does question **12 a** show about calculating the total area of a shape?

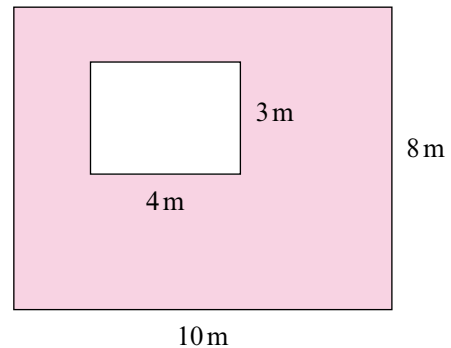
13 a Work out the missing length shown by a ? in each shape.



b Find the area of each shape.

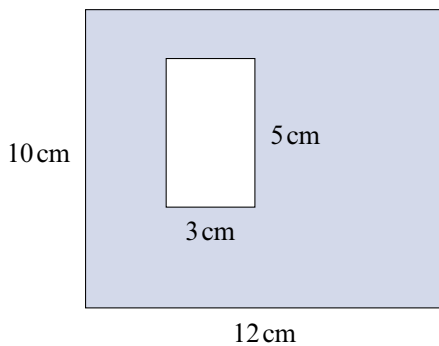
explanation 6

- 14 a** What is the area of the larger rectangle?
b What is the area of the smaller rectangle?
c Explain why the coloured area is 68 m^2 .

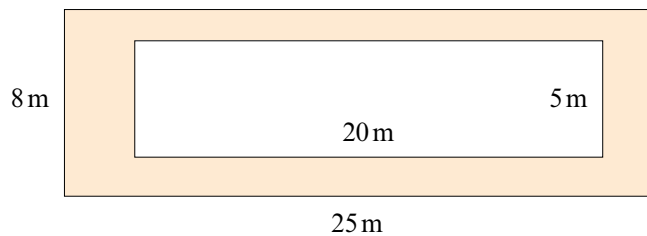


- 15** Work out the coloured areas of these diagrams.

a



b



- 16** Sarah has a rectangular garden that measures 10m by 12m.
 Her garden has a lawn, a square patio of side length 5m and a vegetable patch that is 4m by 1.5m.
 What is the area of the lawn?

