

GCSE Maths: Units of area and area in context (Higher): answers

GCSE Maths - Perimeter, Area and Circles - Higher - Lesson 18.5

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch18-perimeter-area-circles/higher/units-of-area-and-area-in-context/

Exercise 18E Units of area and area in context Calculator allowed

1 Change each area into the unit shown.

(a) 3 m^2 into cm^2

Answer: $30,000 \text{ cm}^2$

(b) 0.5 m^2 into cm^2

Answer: 5000 cm^2

(c) 7 cm^2 into mm^2

Answer: 700 mm^2

(d) 8 km^2 into m^2

Answer: $8,000,000 \text{ m}^2$

2 Change each area into the unit shown.

(a) $45\,000 \text{ cm}^2$ into m^2

Answer: 4.5 m^2

(b) $250\,000 \text{ cm}^2$ into m^2

Answer: 25 m^2

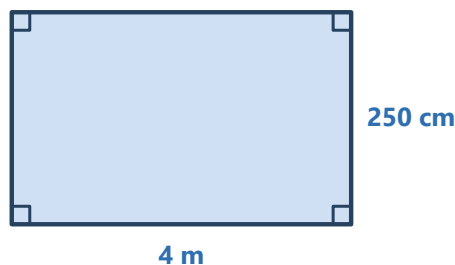
(c) 600 mm^2 into cm^2

Answer: 6 cm^2

(d) $3\,500\,000 \text{ m}^2$ into km^2

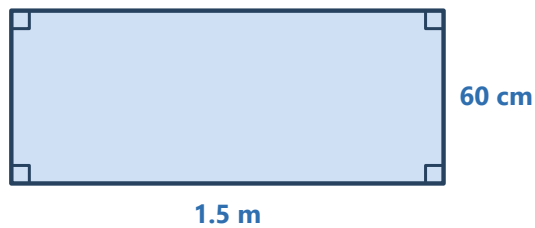
Answer: 3.5 km^2

3 A rectangle is 4 m long and 250 cm wide. Work out its area in m^2 .



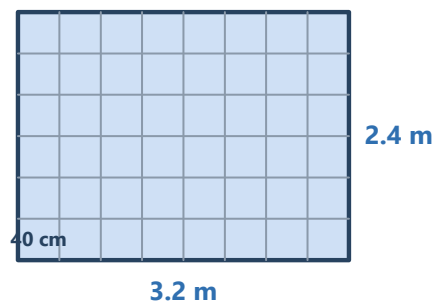
Answer: 10 m^2

- 4 A rectangular table top is 1.5 m long and 60 cm wide. Work out its area in cm^2 .



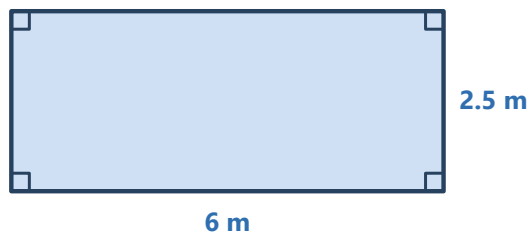
Answer: 9000 cm^2

- 5 A floor is 3.2 m by 2.4 m. Square tiles of side 40 cm cost £2.75 each. Work out the cost of tiling the floor.



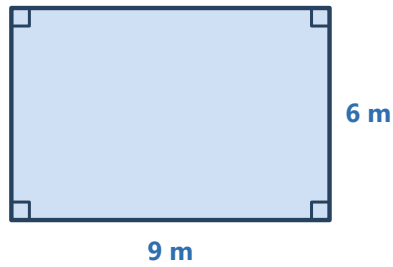
Answer: £132.00

- 6 A wall is 6 m wide and 2.5 m high. One litre of paint covers 10 m^2 . The wall needs two coats. Paint is sold in 2 litre tins at £14.40 each. Work out the cost of the paint.



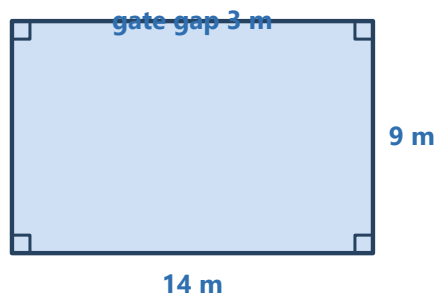
Answer: £28.80

- 7 A lawn is 9 m by 6 m. Turf is sold in rolls that each cover 1.5 m^2 . A roll costs £3.20. Work out the total cost of the turf.



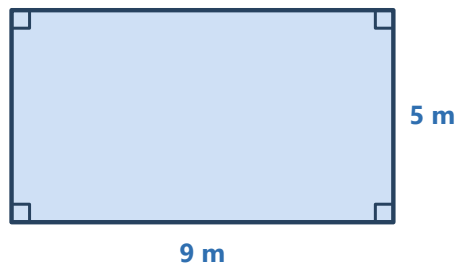
Answer: £115.20

- 8 A rectangular garden is 14 m by 9 m. A fence goes all the way round except for a 3 m gap for a gate. Fencing costs £18 per metre. Work out the cost of the fencing.



Answer: £774

- 9 Tin A holds 2.5 litres of paint, covers 30 m^2 and costs £19. Tin B holds 5 litres, covers 60 m^2 and costs £34. A wall is 9 m by 5 m (one coat). Which choice of tins is cheaper, and by how much?



Answer: One tin B (£34) is cheaper than two tin A (£38) by £4

- 10 Write each area in the unit shown.

(a) $3.6 \times 10^6 \text{ mm}^2$ in m^2

Answer: 3.6 m^2

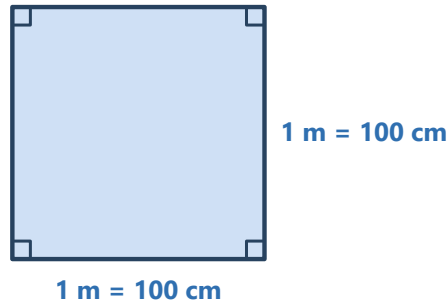
(b) $2.5 \times 10^{-3} \text{ km}^2$ in m^2

Answer: 2500 m^2

- 11 A field has an area of 0.045 km^2 . A farmer wants to sell it in plots of 450 m^2 . How many whole plots can she make, and how much of the field is left over (in m^2)?

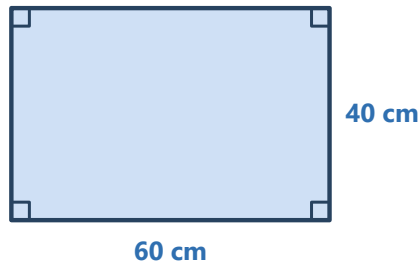
Answer: 100 plots, 0 m² left over

- 12** Ben says: “1 m² is 100 cm², because 1 m is 100 cm.” Use a square of side 1 m to show that Ben is wrong.



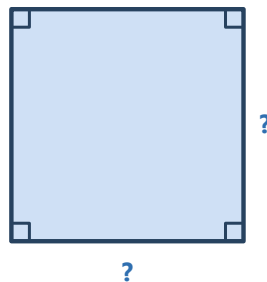
Answer: 1 m² = 10 000 cm²

- 13** Mia says a 60 cm by 40 cm rectangle has an area of 0.24 m². Is she correct? Show how you know.



Answer: Yes, 0.24 m²

- 14** A square has an area of 2.25 m². Show that its perimeter is 600 cm.



Answer: Side 1.5 m = 150 cm; perimeter 600 cm