



- 1 A rectangle has length 9 cm and width 4 cm.

- Work out the area of the rectangle.
- Work out the perimeter of the rectangle.

(2 marks)

Perimeter is the total distance around the boundary. Area counts the unit squares inside the shape, so its units are squared

$$\text{Area} = \text{length} \times \text{width} = 9 \times 4 = 36 \text{ cm}^2$$

$$\text{Perimeter} = 2 \times (9 + 4) = 2 \times 13 = 26 \text{ cm}$$

- 2 A rectangle has corners at the points (1, 2), (8, 2), (8, 5) and (1, 5). Each unit on the grid is 1 cm.

Work out the area of the rectangle.

(2 marks)

$$\text{Length} = 8 - 1 = 7$$

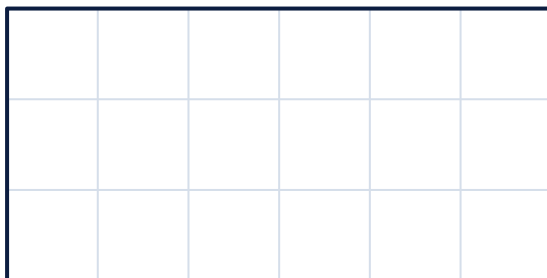
$$\text{width} = 5 - 2 = 3$$

$$7 \times 3 = 21$$

$$21 \text{ cm}^2$$

- 3 The rectangle is drawn on a grid of centimetre squares.

Work out the area of the rectangle.



(2 marks)

$$\text{Length} = 6 \text{ squares, width} = 3 \text{ squares}$$

$$6 \times 3 = 18$$

$$18 \text{ cm}^2$$

- 4 A rectangle has area 54 cm^2 and length 9 cm .

Work out the width of the rectangle.

(2 marks)

$$\text{area} = \text{length} \times \text{width}$$

$$54 = 9 \times \text{width}$$

$$\text{width} = 54 \div 9 = 6$$

$$\boxed{6 \text{ cm}}$$

- 5 Ben wants to work out the perimeter of a square with sides of length 6 cm .

Ben writes:

$$\text{perimeter} = 6 \times 6 = 36 \text{ cm}$$

Explain the mistake Ben has made.

(2 marks)

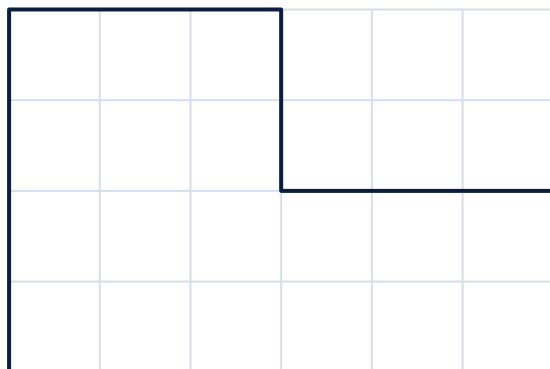
Multiplying 6×6 gives the area of the square (in cm^2), not the perimeter

The perimeter is the total distance around the square

$$4 \times 6 = 24 \text{ cm}$$

- 6 The L-shape is drawn on a grid of centimetre squares.

Work out the area of the L-shape.



(3 marks)

Split into two rectangles

$$\text{Bottom: } 6 \times 2 = 12$$

$$\text{Top: } 3 \times 2 = 6$$

$$12 + 6 = 18$$

$$\boxed{18 \text{ cm}^2}$$

- 7 A rectangular table top is 2 m long and 80 cm wide.

Work out the area of the table top in cm^2 .

(2 marks)

Same units first: $2 \text{ m} = 200 \text{ cm}$

$$200 \times 80 = 16\,000$$

$$16\,000 \text{ cm}^2$$

- 8 A floor is a rectangle 5 m long and 3.5 m wide. Carpet costs £12 per square metre.

Work out the cost of carpeting the floor.

(3 marks)

$$\text{area} = 5 \times 3.5 = 17.5 \text{ m}^2$$

$$17.5 \times 12 = 210$$

$$£210$$

- 9 A rectangle has area 48 cm^2 and length 8 cm.

Work out the perimeter of the rectangle.

(3 marks)

$$\text{width} = 48 \div 8 = 6$$

$$8 + 6 = 14$$

$$2 \times 14 = 28$$

$$28 \text{ cm}$$

- 10 A floor plan is a rectangle 6 m by 4 m. A smaller rectangle 2 m by 3 m is cut out of one corner, leaving an L-shape.

Work out the area of the L-shape.

(3 marks)

$$\text{large: } 6 \times 4 = 24$$

$$\text{cut out: } 2 \times 3 = 6$$

$$24 - 6 = 18$$

$$18 \text{ m}^2$$

- 11 Rectangle A has length 12 cm and width 5 cm.

Rectangle B has width 4 cm. The perimeter of rectangle B is equal to the perimeter of rectangle A .

Work out the area of rectangle B .

(4 marks)

$$\text{Perimeter of } A = 2 \times (12 + 5) = 34 \text{ cm}$$

For rectangle B

$$2 \times (\text{length} + 4) = 34, \text{ so } \text{length} + 4 = 17 \text{ and } \text{length} = 13 \text{ cm}$$

$$\text{Area of } B = 13 \times 4 = 52 \text{ cm}^2$$

$$\boxed{52 \text{ cm}^2}$$

- 12 A rectangular patio is 4.5 m long and 3.6 m wide.

The patio is to be covered completely with square paving slabs. Each slab has sides of length 0.9 m and costs £7.25.

Work out the total cost of the slabs needed. You may assume no slabs are cut.

(4 marks)

Slabs along the length

$$4.5 \div 0.9 = 5$$

Slabs along the width

$$3.6 \div 0.9 = 4$$

$$\text{Number of slabs} = 5 \times 4 = 20$$

$$\text{Total cost} = 20 \times £7.25 = £145$$

$$\boxed{£145}$$

- 13 Rectangle P has length 20 cm and width x cm.

Square Q has sides of length 8 cm.

The area of rectangle P is twice the area of square Q .

Work out the perimeter of rectangle P .

(5 marks)

$$\text{Area of } Q = 8 \times 8 = 64 \text{ cm}^2$$

$$\text{Area of } P = 2 \times 64 = 128 \text{ cm}^2$$

$$20x = 128, \text{ so } x = 6.4 \text{ cm}$$

$$\text{Perimeter of } P = 2 \times (20 + 6.4) = 2 \times 26.4 = 52.8 \text{ cm}$$

$$\boxed{52.8 \text{ cm}}$$