

Perimeter

Maths

Level 2

Exam-style practice · 10 questions · 28 marks · Calculator allowed

Remember

Perimeter is the total distance around the outside. Add every side – all of them, including the ones the diagram doesn't label.

Rectangle: $P = 2 \times (\text{length} + \text{width})$. **Square:** $4 \times \text{side}$.

Missing sides on an L-shape: opposite sides add up. If the whole shape is 9 m wide and one part is 5 m, the other part is 4 m.

Cost questions: perimeter $\rightarrow$ number of lengths/panels (round up) $\rightarrow$ cost. Watch for gaps (a gate) that are not fenced.

Section A – Basic shapes

1. A rectangular lawn is 14.5 m by 8.2 m. Edging strip is sold in 2 m lengths at £3.40 each. How many lengths are needed, and what do they cost? (3 marks)

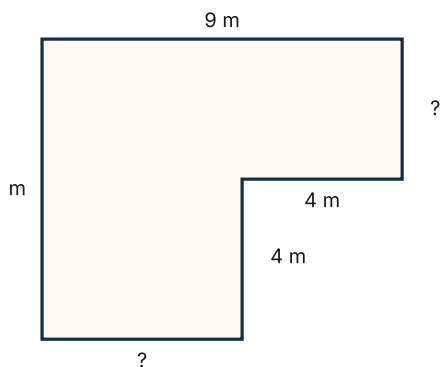
2. A square patio has a perimeter of 22 m. What is the length of one side? (1 mark)

3. A rectangular field is 120 m long and has a perimeter of 380 m. How wide is it? (2 marks)

4. A triangular sign has sides of 45 cm, 45 cm and 60 cm. A strip of LED lights costs 85p per 10 cm. What does it cost to light the edge? (2 marks)

Section B – Compound shapes

5. The diagram shows the floor plan of a room.



(a) Work out the two unlabelled sides. (b) Find the perimeter. (c) Skirting board costs £4.20 per metre and there is a 90 cm doorway with no skirting. What does the skirting cost? (5 marks)

6. A T-shaped garden bed is made from a rectangle 6 m by 2 m on top of a rectangle 2 m by 3 m, centred. Sketch it and find its perimeter. (3 marks)

7. A running track is made of two straights of 100 m and two semicircular ends, each of length 50 m. What is the total distance around the track? (2 marks)

Section C – In context

8. A rectangular allotment is 18 m by 12 m. It needs fencing on all sides except a 1.2 m gate. Fence panels are 1.8 m wide and cost £26.50 each. Posts cost £8 and one post is needed per panel plus one extra. What is the total cost? (5 marks)

9. A picture is 40 cm by 30 cm. A frame adds a 5 cm border all the way round. What is the perimeter of the outside of the frame? (2 marks)

10. A garden is a rectangle 15 m by 9 m with a 3 m by 3 m square cut out of one corner. Does removing the corner change the perimeter? Show why. (3 marks)

Perimeter – Answers

Level 2 · Working shown so you can check your method, not just the final number.

Want a tutor to mark your work? Functify Learning runs live 10-week Functional Skills Level 2 English and Maths courses (small groups, mock exam included) and a 5-day self-paced revision course. Start with our free mini mock test at functifylearning.co.uk.

Section A

- $P = 2 \times (14.5 + 8.2) = 45.4 \text{ m}$. $45.4 \div 2 = 22.7 \rightarrow$ **23 lengths**, cost $23 \times 3.40 =$ **£78.20**.
- $22 \div 4 =$ **5.5 m**.
- $380 - 240 = 140$; $140 \div 2 =$ **70 m**.
- Perimeter $150 \text{ cm} = 15 \times 10 \text{ cm strips} \times 0.85 =$ **£12.75**.

Section B

- (a) Right-hand side: $7.5 - 4 =$ **3.5 m**. Bottom: $9 - 4 =$ **5 m**. (b) Perimeter $= 9 + 3.5 + 4 + 4 + 5 + 7.5 =$ **33 m**. (c) $33 - 0.9 = 32.1 \text{ m} \times 4.20 =$ **£134.82**.
- Perimeter $= 6 + 2 + 2 + 3 + 2 + 3 + 2 + 2 =$ **22 m**. (Top bar: 6 across, 2 down each end; stem: 3 down, 2 across, 3 up; return 2 along each side of the top bar.)
- $100 + 100 + 50 + 50 =$ **300 m**.

Section C

- Perimeter $= 60 \text{ m}$; fenced length $= 58.8 \text{ m}$. $58.8 \div 1.8 = 32.7 \rightarrow$ **33 panels** $\times 26.50 =$ £874.50. Posts $34 \times 8 =$ £272. Total **£1,146.50**.
- Outside is 50 cm by 40 cm . $P =$ **180 cm**.
- No**. The cut-out replaces $3 \text{ m} + 3 \text{ m}$ of the original edge with $3 \text{ m} + 3 \text{ m}$ of new edge. Perimeter stays $2 \times (15 + 9) =$ **48 m**.

Where Level 2 students lose marks on this topic

- Adding only the labelled sides. Every side counts – work out the missing ones first.
- Confusing perimeter with area: perimeter is a length (m), area is m^2 .
- Not rounding up when buying panels or lengths, or forgetting the extra post.