

Answer Key — Perimeter of Rectangles & Squares

Year 4 Mathematics · Measurement and geometry · WA4MMGME1

Section A — Fluency (16 marks, 1 mark each)

1. 26cm
2. 24cm
3. 26cm
4. 36cm
5. 32cm
6. 44cm
7. 34cm
8. 20cm
9. 30cm
10. 52cm
11. 50cm
12. 28cm
13. 44cm
14. 40cm
15. 42cm
16. 48cm

Section B — Core (21 marks)

1. $P = 2 \times (12 + 7) = 2 \times 19 = 38\text{m}$. [2 marks working, 1 mark correct answer]
2. Perimeter = $4 \times \text{side}$, so side = $36 \div 4 = 9\text{m}$. [2 marks working, 2 marks correct answer]
3. $P = 2 \times (45 + 30) = 2 \times 75 = 150\text{m}$ of fencing. [2 marks working, 1 mark correct answer]
4. $P = 2 \times (1.2 + 0.8) = 2 \times 2 = 4\text{m}$; cost = $4 \times \$2 = \$8$. [2 marks perimeter, 2 marks cost]
5. $P = 4 \times 15 = 60\text{m}$; posts needed around a closed loop every 5m = $60 \div 5 = 12$ posts. [2 marks perimeter, 1 mark posts]
6. $P = 2 \times (6 + 4) = 20\text{m}$; subtract the 1m doorway: $20 - 1 = 19\text{m}$ of skirting board. [2 marks perimeter, 2 marks final answer]

Section C — Reasoning (9 marks) — sample responses, award marks for valid reasoning

1. Perimeter is the total distance all the way around the outside edge of a shape, found by adding together the lengths of all its sides. [2 marks]
2. The student only added the length and width once, but a rectangle has two lengths and two widths, so you must double the total: $P = 2 \times (10 + 4) = 28\text{cm}$. [2 marks]
3. Multiply the side length by 4, since all four sides of a square are equal in length. [2 marks]
4. No, the student is not correct. E.g. a square with side 6cm has perimeter $4 \times 6 = 24\text{cm}$, while a rectangle $8\text{cm} \times 4\text{cm}$ has perimeter $2 \times 12 = 24\text{cm}$ — same perimeter, different shapes. [2 marks valid example, 1 mark for correctly saying

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false]

Section D — Challenge (7 marks)

1. $P = 2(L + W) = 40$, so $L + W = 20$; width = $20 - 12 = 8\text{cm}$. [2 marks]
2. Rectangle's perimeter = $2 \times (18 + 6) = 48\text{cm}$; square side = $48 \div 4 = 12\text{cm}$. [2 marks]
3. Let width = w , length = $2w$. $P = 2(2w + w) = 6w = 36$, so $w = 6\text{m}$ (width) and length = 12m . [2 marks correct method, 1 mark both correct values]