2.11 Area and Perimeter: 30-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 30 minutes

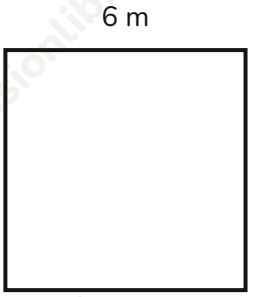
Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A square patio has a side length of 6 m.

Diagram NOT accurately drawn



(a) Work out the perimeter of the square. **(1)**

.....

(b) Work out the area of the square. **(1)**

.....

(Total for Question 1 is 2 marks)

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2 A rectangular vegetable patch measures 9 m by 4 m.

(a) Work out the perimeter of the vegetable patch. **(2)**

.....

(b) Work out the area of the vegetable patch. **(2)**

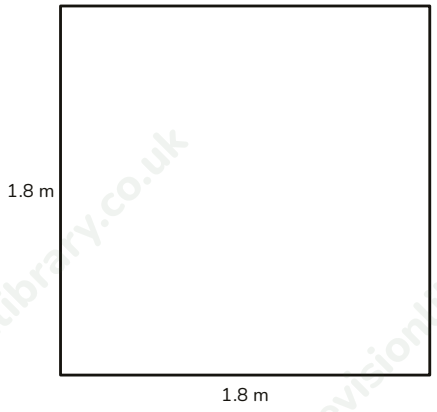
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(Total for Question 2 is 4 marks)

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3 A square rug has a side length of 1.8 m.

Diagram NOT accurately drawn



(a) Work out the perimeter of the rug. **(1)**

.....

(b) Work out the area of the rug. **(2)**

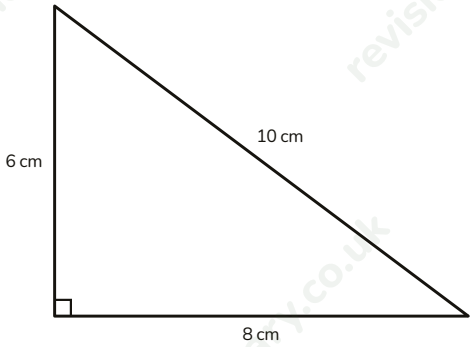
.....

(Total for Question 3 is 3 marks)

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4 A right-angled triangle has side lengths 6 cm, 8 cm and 10 cm. Work out its perimeter.

Diagram NOT accurately drawn

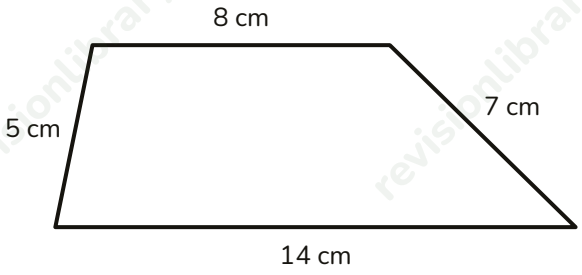


(Total for Question 4 is 1 mark)

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5 Work out the perimeter of a trapezium with parallel sides 14 cm and 8 cm and non-parallel sides 5 cm and 7 cm.

Diagram NOT accurately drawn



(Total for Question 5 is 1 mark)

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6 A rectangular allotment plot is 14 m long and 6 m wide. Work out the perimeter of the plot.

(Total for Question 6 is 1 mark)

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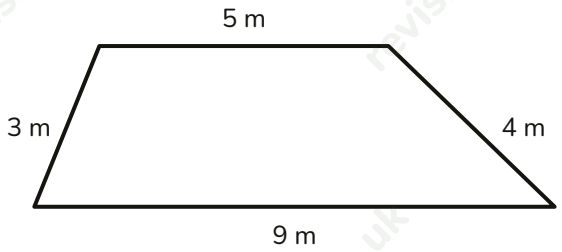
7 A square patio has side length 6.5 m. Work out the perimeter of the patio.

(Total for Question 7 is 1 mark)

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8 A trapezium-shaped garden bed has parallel sides of length 9 m and 5 m, and sloping sides of length 3 m and 4 m. Work out the perimeter of the garden bed.

Diagram NOT accurately drawn



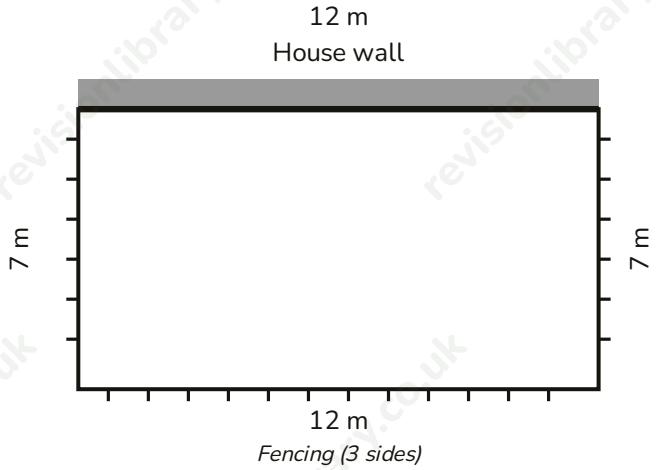
(Total for Question 8 is 1 mark)

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9 A rectangular garden measures 12 m by 7 m. One of the 12 m sides is against the house wall, so fencing is only needed along the other three sides. Fencing costs £4.20 per metre.

Work out the total cost of the fencing.

Diagram NOT accurately drawn

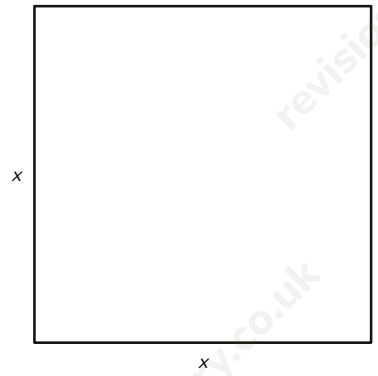


(Total for Question 9 is 3 marks)

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10 A square has a perimeter of 16 cm. Work out the area of the square.

Diagram NOT accurately drawn



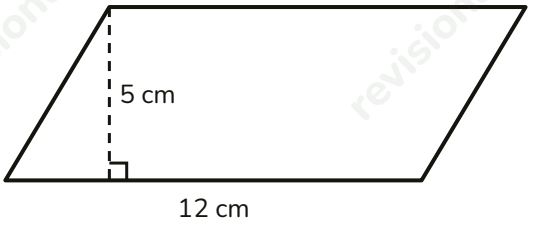
Perimeter = 16 cm

(Total for Question 10 is 3 marks)

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11 Calculate the area of a parallelogram with base 12 cm and perpendicular height 5 cm.

Diagram NOT accurately drawn

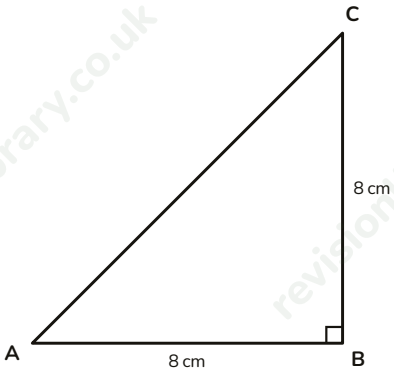


(Total for Question 11 is 1 mark)

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12 A right-angled isosceles triangle has its two perpendicular sides each of length 8 cm. Find the exact perimeter of the triangle, giving your answer in the form $(a + b\sqrt{2})$ cm, where a and b are integers.

Diagram NOT accurately drawn



(Total for Question 12 is 2 marks)

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Mark scheme · 2.11 Area and Perimeter: 30-minute Pack

Question 1

(a) 24 cao **B1**

(a) Answer: 24 m

(b) 36 cao **B1**

(b) Answer: 36 m^2

Question 2

(a) 9 + 9 + 4 + 4 or 2(9 + 4) oe **M1**

(a) 26 cao **A1**

(a) Answer: 26 m

(b) 9 x 4 **M1**

(b) 36 cao **A1**

(b) Answer: 36 m^2

Question 3

(a) 7.2 cao **B1**

(a) Answer: 7.2 m

(b) 1.8 x 1.8 **M1**

(b) 3.24 cao **A1**

(b) Answer: 3.24 m^2

Question 4

Perimeter = 6 + 8 + 10 = 24 cm cao **B1**

Answer: 24 cm

Question 5

Perimeter = 14 + 8 + 5 + 7 = 34 cm cao **B1**

Answer: 34 cm

Question 6

Perimeter = 2(14 + 6) = 40 m cao **B1**

Answer: 40 m

Question 7

Perimeter = 4 x 6.5 = 26 m cao **B1**

Answer: 26 m

Question 8

Perimeter = 9 + 5 + 3 + 4 = 21 m cao **B1**

Answer: 21 m

Question 9

12 + 7 + 7 oe **M1**

26 x 4.20, ft their length **M1**

109.20 (pounds) cao **A1**

Answer: £109.20

Question 10

16 / 4 **M1**

4 x 4 **M1**

16 cm^2 cao **A1**

Answer: 16 cm^2

Question 11

Area = base × height = 12 × 5 = 60 cm^2 cao **B1**

Answer: 60 cm^2

Question 12

Use Pythagoras to find the hypotenuse: $\sqrt{8^2 + 8^2} = \sqrt{128} = 8\sqrt{2}$ **M1**

Perimeter = $8 + 8 + 8\sqrt{2} = (16 + 8\sqrt{2})$ cm cao **A1**

Answer: $(16 + 8\sqrt{2})$ cm

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