Area and Perimeter: exam questions

10 questions · 26 marks · mark schemes at the end

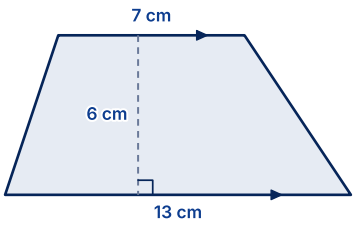
Name _____ Date _____ Score / 26

- Calculators are allowed on both 4MA1 Higher papers (1H and 2H). Show your working: most marks are for method.
- Mark schemes start after the questions. M marks are for a correct method, A marks for an accurate answer that follows a correct method, and B marks for a correct result on its own.
- Online, with more practice: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/area-and-perimeter

1. **2 marks**

A trapezium has parallel sides of 7 cm and 13 cm. The distance between them is 6 cm.

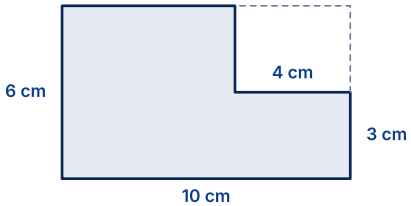
Work out the area of the trapezium.



2. **3 marks**

An L-shape is made by cutting a 4 cm by 3 cm rectangle from one corner of a 10 cm by 6 cm rectangle.

Work out (a) the area and (b) the perimeter of the L-shape.



(a) Area **(2)**

(b) Perimeter **(1)**

3. **2 marks**

A triangle has an area of 30 cm² and a base of 12 cm.

Work out the perpendicular height of the triangle.

4. **2 marks**

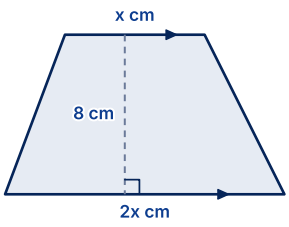
A square has an area of 50 cm².

Work out the perimeter of the square. Give your answer correct to 3 significant figures.

5. **3 marks**

A trapezium has parallel sides of x cm and $2x$ cm. The distance between them is 8 cm. Its area is 84 cm².

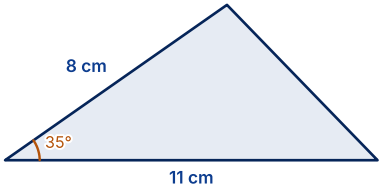
Work out the value of x.



6. **2 marks**

A triangle has sides of 8 cm and 11 cm with an angle of $35°$ between them.

Work out the area of the triangle.



7. **3 marks**

A rectangular floor is 5.4 m long and 3.8 m wide. Carpet costs £18.50 per m².

Work out the cost of carpet for the whole floor.

8. **2 marks**

The diagonals of a rhombus are 14 cm and 9 cm.

Work out the area of the rhombus.

9. **3 marks**

The perimeter of a rectangle is 46 cm. The length is 5 cm more than the width.

Work out the area of the rectangle.

10. **4 marks**

A rectangle has length $(x + 3)$ cm and width x cm. Its area is 40 cm².

Work out the perimeter of the rectangle.

Answers and worked solutions

Question 1 — 2 marks

M1 $\frac{1}{2}(7+13)\times 6$

A1 $60\,\text{cm}^2$

Answer: $60\,\text{cm}^2$

Question 2 — 3 marks

(a)

M1 $10\times 6-4\times 3$

A1 $48\,\text{cm}^2$

(b)

B1 32 cm

Answer: (a) $48\,\text{cm}^2$; (b) 32 cm

Question 3 — 2 marks

M1 $\frac{1}{2}\times 12\times h=30$

A1 5 cm

Answer: 5 cm

Question 4 — 2 marks

M1 side $\sqrt{50}=7.07\ldots$

A1 28.3 cm

Answer: 28.3 cm

Question 5 — 3 marks

M1 $\frac{1}{2}(x+2x)\times 8=84$

M1 $12x=84$

A1 $x=7$

Answer: $x=7$

Question 6 — 2 marks

M1 $\frac{1}{2}\times 8\times 11\times \sin 35°$

A1 $25.2\,\text{cm}^2$

Answer: $25.2\,\text{cm}^2$

Question 7 — 3 marks

M1 $5.4\times 3.8=20.52\,m^2$

M1 20.52×18.50

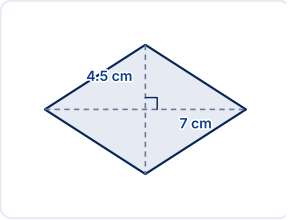
A1 £379.62

Answer: £379.62

Question 8 — 2 marks

M1 $\frac{1}{2}\times 14\times 9$, or four triangles $4\times\frac{1}{2}\times 7\times 4.5$

A1 $63\,\text{cm}^2$



Answer: $63\,\text{cm}^2$

Question 9 — 3 marks

M1 $2w+2(w+5)=46$

A1 $w=9$, length 14

A1 $126\,\text{cm}^2$

Answer: $126\,\text{cm}^2$

Question 10 — 4 marks

M1 $x^2+3x-40=0$

M1 $(x+8)(x-5)=0$

A1 $x=5$

A1 26 cm

Answer: 26 cm

Online, with every solution: igcsemathrevision.com/igcse-frontend/4ma1/exam-questions/area-and-perimeter
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