

IGCSE Maths 4MA1 Geometry Practice Exam: Mark Scheme

Pearson Edexcel International GCSE Mathematics A (4MA1), Higher tier · 18 questions · 50 marks

- M marks are for a correct method; A marks for an accurate answer that follows a correct method; B marks are independent of method.
- Accept any correct method that reaches a correct answer, unless the question says which method to use.
- Practise these topics online with instant feedback: igcsemathrevision.com/igcse-unit.html?course=igcse&unit=5

Question 1**1 mark****B1** 25**Final answer:** 25**Question 2****2 marks****M1** $4 \times 9 = 6 \times PD$ **A1** 6 cm**Final answer:** 6 cm**Question 3****2 marks****M1** $(360 - 110 - 50) \div 2$ **A1** 100° **Final answer:** 100° **Question 4****2 marks****M1** angle E = $180 - 50 - 60 = 70^\circ$ **A1** ASA (AB = DE, A = D, B = E) so congruent**Final answer:** Congruent (ASA), since angle E = 70° **Question 5****2 marks****M1** $\pi r^2 = 80$ or $r = \sqrt{80 \div \pi}$ **A1** 5.05 (5.046...)**Final answer:** 5.05 cm**Question 6****2 marks****M1** $2\pi \times 5 \times h = 150\pi$ **A1** 15 cm**Final answer:** 15 cm

Question 7**2 marks**

M1 vector from centre (3, 3) doubled to (6, 6)

A1 (7, 8)

Final answer: (7, 8)

Question 8**2 marks**

M1 $20 \times (9/6)^2$ or 20×2.25

A1 45 cm^2

Final answer: 45 cm^2

Question 9**3 marks**

M1 $\theta/360 \times \pi \times 9^2 = 50$

M1 $\theta = 50 \times 360/(81\pi)$

A1 70.7° (accept $70.7 - 70.8$)

Final answer: 70.7°

Question 10**3 marks**

M1 $1/3 \times x^2 \times 9 = 300$

M1 $x^2 = 100$

A1 10 cm

Final answer: 10 cm

Question 11**3 marks**

B1 rotation

B1 90° anticlockwise (or 270° clockwise)

B1 centre (0, 0)

Final answer: Rotation 90° anticlockwise about (0, 0)

Question 12**4 marks**

M1 $5x - 12 = 3x + 24$ (alternate angles are equal)

A1 $x = 18$

B1 102°

B1 reasons: alternate angles are equal; angles on a straight line add up to 180°

Final answer: (a) $x = 18$ (b) 102°



Question 13**4 marks**

M1 angle sum $(7 - 2) \times 180 = 900$

M1 $6x + 80 + 400 = 900$

A1 $x = 70$

B1 150° (the angles are $140^\circ, 140^\circ, 110^\circ, 110^\circ, 150^\circ, 130^\circ, 120^\circ$)

Final answer: (a) $x = 70$ (b) 150°

Question 14**3 marks**

M1 $x(14 - x) = 5 \times 8$

M1 $x^2 - 14x + 40 = 0 \Rightarrow (x - 4)(x - 10) = 0$

A1 CP = 4 cm

Final answer: 4 cm

Question 15**3 marks**

B1 AB = CD and BC = DA (opposite sides of a parallelogram are equal)

B1 AC is common

B1 congruent by SSS

Final answer: Congruent by SSS (proof)

Question 16**3 marks**

M1 circumference $\pi \times 65 (= 204.2... \text{ cm})$

M1 $100\,000 \div \text{their } 204.2$ (consistent units)

A1 489

Final answer: 489 complete turns

Question 17**4 marks**

M1 sector area $80/360 \times \pi \times 12^2 (= 100.5...)$

M1 triangle area $\frac{1}{2} \times 12 \times 12 \times \sin 80^\circ (= 70.9...)$

M1 sector – triangle

A1 29.6 (accept 29.6 – 29.7)

Final answer: 29.6 cm²



Question 18

5 marks

M1 draws a line through C parallel to PQ, so angle BCD = angle QBC + angle SDC (alternate angles)

M1 $2y + 10 + 3y - 5 = 110$

A1 $y = 21$

B1 angle PBC = $180 - 52 = 128^\circ$

B1 reasons: alternate angles are equal; angles on a straight line add up to 180°

Final answer: (a) $y = 21$ (b) 128°

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