

Cambridge IGCSE Maths 0580 Algebra and graphs Practice Exam: Mark Scheme

Cambridge IGCSE Mathematics (0580), Core and Extended · 23 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=cie0580&unit=2](https://www.igcsemathrevision.com/igcse-unit.html?course=cie0580&unit=2)

Section A: no calculator

Question 1 2 marks

M1 $3 \times 4 + 2 \times (-5)$ **A1** 2

Final answer: 2

Question 2 2 marks

B2 $3a + 7b$ (B1 for $3a$ or $7b$)Final answer: $3a + 7b$

Question 3 2 marks

B1 (a) x^7 **B1** (b) y^7 Final answer: (a) x^7 (b) y^7

Question 4 2 marks

M1 $5x = 25$ **A1** 5Final answer: $x = 5$

Question 5 2 marks

B1 (a) $x > -2$ **B1** (b) $x \leq 3$ Final answer: (a) $x > -2$ (b) $x \leq 3$ 

Question 6**2 marks****B1** (a) 18**B1** (b) 100**Final answer:** (a) 18 euros (b) \$100**Question 7****2 marks****B2** 5, 0, -3, -4, -3, 0, 5 (B1 for 5 or 6 correct)**Final answer:** 5, 0, -3, -4, -3, 0, 5**Question 8****2 marks****M1** $2 \times (-2)^2 - 3 \times (-2)$ or $8 + 6$ **A1** 14**Final answer:** 14**Question 9****2 marks****M1** at least three of x^2 , $-3x$, $+4x$, -12 **A1** $x^2 + x - 12$ **Final answer:** $x^2 + x - 12$ **Question 10****2 marks****B2** $5p^4$ (B1 for 5 or p^4)**Final answer:** $5p^4$ **Question 11****2 marks****B1** (a) $-3 < x \leq 5$ **B1** (b) 8**Final answer:** (a) $-3 < x \leq 5$ (b) 8**Question 12****2 marks****M1** compares with n^2 : 1, 4, 9, 16, 25, or second difference 2**A1** $n^2 - 1$ oe**Final answer:** $n^2 - 1$ **Question 13****2 marks****M1** $120 \div 1.5$ **A1** 80 km/h**Final answer:** 80 km/h

Question 14**3 marks**

M1 adds the equations: $3x = 12$, or substitutes $x = 1 + y$

A1 $x = 4$

A1 $y = 3$

Final answer: $x = 4$, $y = 3$

Question 15**3 marks**

B1 U-shape through $(-2, 0)$ and $(4, 0)$

B1 $(0, -8)$ marked

B1 $x = 1$

Final answer: U-shape through $(-2, 0)$, $(4, 0)$, $(0, -8)$; $x = 1$

Question 16**2 marks**

M1 $x^3 - 2x = 3x - 2$ or rearranges $x^3 - 5x + 2 = 0$ to $x^3 - 2x = \dots$

A1 $y = 3x - 2$

Final answer: $y = 3x - 2$

Question 17**3 marks**

M1 $x(x^2 - 4x + 3)$ or $x(x - 1)(x - 3)$

A1 $(0, 0)$, $(1, 0)$ and $(3, 0)$

B1 correct cubic shape: rising from bottom left to top right through the three roots

Final answer: cubic through $(0, 0)$, $(1, 0)$, $(3, 0)$, rising from bottom left to top right

Section B: calculator allowed**Question 18****2 marks**

M1 at least three of $3x^2$, $15x$, $-2x$, -10

A1 $3x^2 + 13x - 10$

Final answer: $3x^2 + 13x - 10$

Question 19**2 marks**

B1 (a) $1/x^3$

B1 (b) $4x^6$

Final answer: (a) $\frac{1}{x^3}$ (b) $4x^6$

Question 20**2 marks**

M1 $2x - 3 = 20$

A1 11.5 oe

Final answer: $x = 11.5$



Question 21**2 marks****B1** (a) 56**B1** (b) 62.5**Final answer:** (a) 56 km (b) 62.5 miles**Question 22****2 marks****B2** 2.5, 2, 2.5, 3.33, 4.25 (B1 for 3 or 4 correct)**Final answer:** 2.5, 2, 2.5, 3.33, 4.25**Question 23****3 marks****M1** $3n^2 - 2n = 645$ **M1** solves $3n^2 - 2n - 645 = 0$, e.g. $(3n + 43)(n - 15) = 0$ or formula**A1** 15th term**Final answer:** the 15th termEnd of mark scheme · More free exams: [igcsemathrevision.com/free-practice-exams](https://www.igcsemathrevision.com/free-practice-exams)