

IGCSE Maths 4MA1 Equations and Sequences Practice Exam: Mark Scheme

Pearson Edexcel International GCSE Mathematics A (4MA1), Higher tier · 21 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=3](https://www.igcsemathrevision.com/igcse-unit.html?course=igcse&unit=3)

Question 1

1 mark

B1 $(x + 9)(x - 9)$

Final answer: $(x + 9)(x - 9)$

Question 2

1 mark

B1 $(4, 7)$

Final answer: $(4, 7)$

Question 3

2 marks

M1 $k = 20$ oe

A1 5

Final answer: 5

Question 4

2 marks

M1 $6 \times 15 = 90$ worker-days

A1 10 days

Final answer: 10 days

Question 5

2 marks

M1 $20/2 \times (2 \times 3 + 19 \times 4)$

A1 820

Final answer: 820

Question 6

2 marks

B1 23, 27

B1 add 4

Final answer: (a) 23, 27 (b) add 4



Question 7**3 marks**

M1 adds to eliminate y : $6x = 18$

M1 substitutes their $x = 3$ into either equation

A1 $x = 3, y = -1$

Final answer: $x = 3, y = -1$

Question 8**2 marks**

B2 $(2x + 1)(x + 3)$ (B1 for factors giving two of the three terms correct)

Final answer: $(2x + 1)(x + 3)$

Question 9**2 marks**

M1 $15/2 \times (100 + 14 \times (-4))$

A1 330

Final answer: 330

Question 10**2 marks**

M1 $(x + 5/2)^2$ seen

A1 $(x + 5/2)^2 - 33/4$ oe

Final answer: $(x + \frac{5}{2})^2 - \frac{33}{4}$

Question 11**2 marks**

M1 $3n + 8 = 100$ or $n = 92/3$ oe, or terms 98 and 101 shown

A1 No, with correct reason (n is not a whole number)

Final answer: No: $3n + 8 = 100$ gives $n = 30\frac{2}{3}$, not an integer

Question 12**3 marks**

M1 multiplies to match coefficients, e.g. $8x + 6y = 50$ and $9x + 6y = 54$

M1 eliminates a variable and substitutes back

A1 $x = 4, y = 3$

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

Question 13**3 marks**

M1 e.g. $18x + 12y = 21$ and $8x - 12y = 18$

M1 $26x = 39$ and substitutes their x

A1 $x = 1.5, y = -0.5$

Final answer: $x = 1.5, y = -0.5$



Question 14**4 marks****M1** (a) $y = k/x^2$ **M1** $5 = k/16$ **A1** $y = 80/x^2$ **B1** (b) 0.8**Final answer:** (a) $y = \frac{80}{x^2}$ (b) 0.8**Question 15****2 marks****M1** expands $(x - 7)^2 - 15$ to $x^2 - 14x + 49 - 15$ **A1** $a = -14$ and $b = 34$ **Final answer:** $a = -14$, $b = 34$ **Question 16****2 marks****M1** numerator $3n - 1$ or denominator $4n + 1$ **A1** $(3n - 1)/(4n + 1)$ **Final answer:** $\frac{3n - 1}{4n + 1}$ **Question 17****3 marks****M1** e.g. multiplies the first by 3: $1.2x + 4.5y = 10.2$ **M1** subtracts: $5y = 6$, and substitutes their y **A1** $x = 4$, $y = 1.2$ **Final answer:** $x = 4$, $y = 1.2$ **Question 18****3 marks****M1** $(3x \pm 4)(2x \pm 3)$ **A1** $(3x - 4)(2x + 3)$ **A1** $x = 4/3$, $x = -3/2$ **Final answer:** $x = \frac{4}{3}$, $x = -\frac{3}{2}$ **Question 19****3 marks****M1** $p = k/\sqrt{q}$ **M1** $k = 36$ **A1** 9**Final answer:** 9

Question 20

3 marks

M1 identifies 7, 14, ..., 196 with $n = 28$

M1 $28/2 \times (7 + 196)$ oe

A1 2842

Final answer: 2842

Question 21

3 marks

M1 $(x - 2)^2$ seen

A1 $(x - 2)^2 + 5$

A1 states $(x - 2)^2 \geq 0$ so the expression $\geq 5 > 0$ (cso)

Final answer: $(x - 2)^2 + 5 \geq 5 > 0$ (shown)

End of mark scheme · More free exams: [igcsemathrevision.com/free-practice-exams](https://www.igcsemathrevision.com/free-practice-exams)

