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4MA1 Nov 2026 Paper 2 Best Guess Paper

Higher · Standard · Mark Scheme

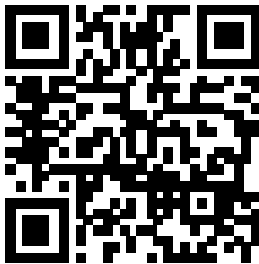
Disclaimer

This independently compiled practice paper is designed for students preparing for Pearson Edexcel International GCSE Mathematics A (4MA1), Higher Tier, Paper 2H. It includes accessible and challenging Higher Tier questions for standard exam practice. A calculator may be used.

It is not an official Pearson Edexcel examination paper and is not endorsed by Pearson. There is no guarantee that these questions or topics will appear in the real examination. Claims of a perfectly predicted paper should not be relied on.

Attempt all questions, use the matching mark scheme and worked solutions, and show every stage of your working. The best preparation is to revise the full specification, using the free worksheets and clips at www.mygrade9mathstutor.com.

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Mark Scheme

23 questions · 100 marks

Calculator allowed · 2 hours

Calculator allowed · 23 questions · 100 marks · Suggested time: 2 hours.
Answer every question and show all stages of your working.

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International GCSE Mathematics A 4MA1 · November 2026 · Calculator allowed · 23 questions · 100 marks

M: method mark · **A**: accuracy mark · **B**: independent mark.

Accept equivalent valid methods. Accuracy marks require the associated method, shown or implied. Partial credit is specified below.

Independent practice-paper scheme, not an official Pearson mark scheme.

Question 1 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)	$3x - 5 > 10 \Rightarrow 3x > 15$	x > 5	2	M1 — Add 5 and divide by positive 3; inequality direction unchanged. A1 — $x > 5$, not $x \geq 5$.
(b)	Strict inequality excludes 5	Open circle at 5; arrow right	1	B1 — Both an open circle at 5 and a ray extending right.

Question 2 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
2	$78 \times 100 = 7800$; $7800 \div 200$	39 cm	3	M1 — Convert 78 metres to 7800 centimetres. M1 — Divide by 200, or use $78 \div 2$. A1 — 39 cm.

Question 3 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
3	$90 \times 1000 \div 3600$	25 m/s	3	M1 — Convert kilometres to metres. M1 — Convert one hour to 3600 seconds, or divide km/h by 3.6. A1 — 25 m/s.

Question 4 · 2 marks

Q / part	Working / method	Answer	Marks	Marking guidance
4	$0.8 \times \text{normal price} = 344$	£430	2	M1 — Recognise the sale price as 80% of the normal price and divide by 0.8. A1 — £430.

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Question 5 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
5	$5x - 1 = 3x + 5$; $x = 3$; height = 14	336 cm²	4	M1 — Equate the opposite sides: $5x - 1 = 3x + 5$. M1 — Solve the equation to obtain $x = 3$. M1 — Use $24 \times$ a height obtained by substitution. A1 — 336 cm ² .

Question 6 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
6	$720 \div 12 = 60$; 420, 180, 120; $168 + 120 + 90$	378 yellow flowers	5	M1 — Use total ratio parts $7 + 3 + 2 = 12$. A1 — 420 tulips, 180 crocus bulbs and 120 daffodils. M1 — Apply the yellow-flower fractions/percentage to the corresponding quantities. A1 — 168, 120 and 90 yellow flowers respectively. A1 — 378.

Question 7 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)(i)	Numbers inside circle Q	{11, 13, 14, 15, 16}	1	B1 — All five numbers, no extras; any order.
(a)(ii)	In P or R or both	{10, 12, 14, 15, 16, 17, 19}	1	B1 — All seven numbers, no extras; any order. Exclude 11 and 13, which are in Q only.
(b)	P and R do not overlap	Yes; no elements in common	1	B1 — Correct decision with explanation that $P \cap R$ is empty.
(c)	Five numbers outside Q, ten altogether	$5/10 = 1/2$	2	M1 — Count five eligible numbers out of ten. A1 — $1/2$ or equivalent.

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Question 8 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
8	Shared side = $\sqrt{(15^2 - 9^2)} = 12$; $\sin 40^\circ = 12/x$	18.7 cm	4	M1 — Pythagoras: shared side ² = $15^2 - 9^2$. A1 — Shared side 12 cm. M1 — Use $\sin 40^\circ = 12/x$, or equivalent. A1 — 18.7 cm to one decimal place.

Question 9 · 7 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)	$2^5 = 32$; $(p^3)^5 = p^{15}$	$32p^{15}$	2	B2 — Both coefficient and power correct; B1 for exactly one correct component.
(b)	$8p^2 - 6p - p^2 + 4p$	$7p^2 - 2p$	2	M1 — Expand with at least three correct terms and signs. A1 — $7p^2 - 2p$.
(c)	$3x - 2 = 4(5 - x)$; $7x = 22$	$x = 22/7$	3	M1 — Multiply both sides by 4. M1 — Collect x terms and constants correctly. A1 — $22/7$ or equivalent exact value.

Question 10 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)	Complements on each branch	0.35, 0.65; 0.8, 0.2; 0.1, 0.9	2	B2 — All six probabilities correct; B1 for one complete correct pair.
(b)	$0.35 \times 0.8 + 0.65 \times 0.1$	0.345	3	M1 — Multiply along one cancelled pathway. M1 — Add the two cancelled-pathway probabilities. A1 — 0.345.

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Question 11 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)	$(x, y) \rightarrow (-y, x)$	C: $(-1, 3), (-1, 5), (-2, 3)$	3	B3 — All three vertices correct and joined; B2 for two, B1 for one.
(b)	$(3, 0) - 2[(x, y) - (3, 0)]$	B: $(3, -2), (-1, -2), (3, -4)$	2	B2 — Correct enlargement and joined vertices; B1 for two correct vertices.

Question 12 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)	Plot $(-2, 8), (0, 4), (2, 0), (3, -2)$	Straight line $y = -2x + 4$	3	M1 — Calculate at least two correct coordinates. M1 — Plot at least two correct coordinates. A1 — Correct straight line over $-2 \leq x \leq 3$.
(b)	Right of $x = 0$, above $y = -1$, below $y = -2x + 4$	Triangular region R	2	B2 — Correct region, labelled R; B1 for a region satisfying two inequalities. $x = 0$ is included; the other two boundaries are excluded.

Question 13 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
13	$\frac{1}{2}\pi(5^2 - 3^2) = 8\pi; 24 \times 8\pi$	Yes; cost £603.19 approximately	5	M1 — Convert diameters 10 m and 6 m to radii 5 m and 3 m. M1 — Subtract the two semicircle areas. A1 — $8\pi \text{ m}^2$, approximately 25.13 m^2 . M1 — Multiply the patio area by £24 per square metre. A1 — Approximately £603.19 and conclude yes, within £1200.

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Question 14 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)	$5^0 = 1$	k = 0	1	B1 — 0.
(b)	$27/3^8 = 3^{3-8}$	m = -5	2	M1 — Write $27 = 3^3$ and subtract indices. A1 — -5.
(c)	$(7^{-4})^3 \times 7^5 = 7^{-12+5}$	p = -7	2	M1 — Multiply -4 by 3 and then add 5. A1 — -7.

Question 15 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
15	Total: $10 + 40 + 75 + 60 = 185$; target: $10 + 75 + 20 = 105$	105/185 = 21/37	4	M1 — Use frequency = density $\times$ class width. A1 — Total frequency 185. M1 — Use the partial widths 5, 15 and 5 to obtain target frequency 105. A1 — 105/185 or equivalent.

Question 16 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
16	Area ratio $80\pi/45\pi = 16/9$; linear ratio $4/3$; volume ratio $64/27$	1920 cm³	4	M1 — Form the area ratio 16/9. M1 — Square root to obtain linear ratio 4/3. M1 — Cube the linear ratio and multiply volume 810 by 64/27. A1 — 1920 cm ³ .

Question 17 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
17	Angle ABC = 90°; angle BAC = $\tan^{-1}(20/15)$; bearing = 45° + angle BAC	098.1°	4	M1 — Establish the right angle at B, using reverse bearing 225° and bearing 135°. M1 — Use $\tan(\text{angle BAC}) = 20/15$. A1 — Angle BAC approximately 53.130°. A1 — 098.1° to one decimal place.

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Question 18 · 6 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)	Substitute $x = -2, 0$ and 2	-1, 1, 3	2	B2 — All three missing values correct; B1 for one or two.
(b)	Plot the seven table points	Smooth cubic curve	2	B2 — All points correctly plotted and a smooth cubic; B1 for at least five correct points.
(c)	$x^3 - 3x - 1 = 0 \Rightarrow y = 2$	$x \approx -1.53, -0.35, 1.88$	2	B2 — All three graph intersections; accept graph-reading tolerance ± 0.1 . B1 for one or two correct roots.

Question 19 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
(a)	$2(x^2 - 6x) + 23 = 2[(x - 3)^2 - 9] + 23$	$2(x - 3)^2 + 5$	3	M1 — Factor out 2 and complete $x^2 - 6x$. A1 — Correct square $(x - 3)^2$. A1 — Constant 5, with the factor 2 retained.
(b)	Read the minimum from completed-square form	(3, 5)	1	B1 — Both coordinates correct.

Question 20 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
20	$(2n - 1)^2 + (2n + 1)^2 = 8n^2 + 2$	Always 2 more than a multiple of 8	4	M1 — Represent consecutive odd integers as $2n - 1$ and $2n + 1$, n an integer. M1 — Expand both squares correctly. A1 — Simplify to $8n^2 + 2$. A1 — Explain that n^2 is an integer, so $8n^2$ is a multiple of 8.

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Question 21 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
21	$5(5 + x) = x(x + 7); x^2 + 2x - 25 = 0$	4.10 cm	4	M1 — Use external $\times$ whole length for both secants. M1 — Form $x^2 + 2x - 25 = 0$. M1 — Solve the quadratic and select the positive root $\sqrt{26} - 1$. A1 — 4.10 cm to three significant figures.

Question 22 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
22	Radius gradient $-7/4$; tangent gradient $4/7$; $y + 7 = (4/7)(x - 4)$	$4x - 7y - 65 = 0$	4	M1 — Find radius gradient $-7/4$. M1 — Use the negative reciprocal $4/7$ for the tangent. M1 — Use point $(4, -7)$ in a tangent-line equation. A1 — $4x - 7y - 65 = 0$, or a non-zero integer multiple.

Question 23 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
23	$v = 3t^2 - 24t + 45$; $t = 3, 5$; $s = 0, 54, 50, 70$	78 m	5	M1 — Differentiate to get velocity $3t^2 - 24t + 45$. M1 — Solve $v = 0$ to find $t = 3$ and $t = 5$. A1 — Displacements $s(0) = 0$, $s(3) = 54$, $s(5) = 50$, $s(7) = 70$. M1 — Add absolute displacement changes on the three time intervals. A1 — 78 m; 70 m is displacement, not total distance.