



mygrade9 mathstutor.com

Boost Your Skills & Grades in Grade 9 Maths

1MA1 Nov 2026 Paper 2H Normal Higher · Mark Scheme

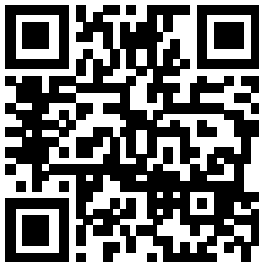
Disclaimer

This independent Best Guess practice resource prepares students for Pearson Edexcel GCSE Mathematics 1MA1 Higher Tier Paper 2 (calculator). It covers accessible and challenging Higher questions, not just one target grade.

This is not an official Pearson Edexcel paper or a guarantee of the questions that will appear. Revise the full specification.

Attempt all 21 questions, show your working, then use the matching mark scheme, worked solutions and linked worksheets and clips at www.mygrade9mathstutor.com.

If you find this paper help please support me, by
buying me a coffee



Video walkthrough



Calculator allowed · 21 questions · 80 marks · Suggested time: 1 hour 30 minutes.
Answer every question. Give appropriate units and show all stages of your working.

Question 1 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
1(a)	Common difference = 4 $4n - 1$	$4n - 1$	2	M1 — For $4n \pm k$, where k is an integer. A1 — For $4n - 1$ or equivalent.
1(b)	$4n - 1 = 87$ $4n = 88$, so $n = 22$	87 is the 22nd term	1	B1 — For a valid demonstration: $n = 22$ is a positive integer, or a correct extension of the sequence to 87. An unsupported assertion is insufficient.

Question 2 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
2	$\angle PSR = 360^\circ - (65^\circ + 105^\circ + 75^\circ) = 115^\circ$ $\angle PST = 180^\circ - 115^\circ = 65^\circ$ PT = PS, so $\angle PTS = \angle PST$.	$x = 65^\circ$	3	M1 — For 115° , using the sum of angles in a quadrilateral. M1 — For 65° at S, using angles on a straight line. A1 — For $x = 65^\circ$, explaining that equal sides PT and PS give equal base angles at T and S.

Question 3 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
3(a)	$3x - 5 > 10$ $3x > 15$, so $x > 5$	$x > 5$	2	M1 — For isolating $3x$ or dividing by 3. A1 — For $x > 5$, correct answer only.
3(b)	Represent $x > 5$ on the number line.	Open circle at 5; arrow right	1	B1 — For an open circle at 5 and a line/arrow pointing right.

Question 4 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
4	Midpoints: 2.5, 7.5, 12.5, 17.5, 22.5 $\Sigma fx = 15 + 105 + 225 + 140 + 90 = 575$ $575 \div 50 = 11.5$	11.5 kg	3	M1 — For finding the class midpoints. M1 — For calculating $\Sigma fx = 575$. A1 — For 11.5, correct answer only.

Question 5 · 6 marks

Q / part	Working / method	Answer	Marks	Marking guidance
5(a)	$(2p^3)^5 = 2^5p^{15}$	32p¹⁵	2	B2 — For $32p^{15}$. Award B1 for $32p^k$ or kp^{15} .
5(b)	$8p^2 - 6p - p^2 + 4p$	7p² - 2p	2	M1 — For expanding to at least 3 correct terms with correct signs. A1 — For $7p^2 - 2p$, correct answer only.
5(c)	$4c = t - d$	c = (t - d)/4	2	M1 — For correctly isolating the 4c term. A1 — For $c = (t - d)/4$ or equivalent.

Question 6 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
6	$5x - 1 = 3x + 5$ $2x = 6$, so $x = 3$ Height = 14 Area = 14×24	336 cm²	4	M1 — For equating opposite sides and isolating x. M1 — For $x = 3$ and substitution to find the height (14). M1 — For multiplying their height by 24. A1 — For 336, correct answer only.

Question 7 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
7	$720 \div 12 = 60$ Tulips: 420; crocus: 180; daffodils: 120 $168 + 120 + 90 = 378$	378 bulbs	4	M1 — For finding the value of one ratio share. M1 — For finding the total number of at least one flower type. M1 — For finding the yellow proportions and summing them. A1 — For 378, correct answer only.

Question 8 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
8	Original $\times 0.88 \times 0.85 = 11220$. $11220 \div 0.748 = 15000$.	£15000	3	M1 — Use the remaining-value multipliers. M1 — Divide the final value by their product. A1 — £15000.

Question 9 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
9	$V = (4/3)\pi \times 2.4^3 = 57.905835\dots \text{ cm}^3$ Density = $385/V = 6.648725\dots$	6.65 g/cm³	3	M1 — For using $V = (4/3)\pi r^3$ cubed with $r = 2.4$. M1 — For dividing 385 by their sphere volume. A1 — For 6.65, correctly rounded to 3 significant figures.

Question 10 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
10(a)	90° anticlockwise about (0, 0): $(x, y) \rightarrow (-y, x)$	C has vertices (-1, 3), (-1, 5), (-2, 3)	2	B2 — For the correctly rotated triangle, labelled C. Award B1 for 2 correct image vertices.
10(b)	Centre (5, 1), scale factor 3: $(x, y) \rightarrow (5 + 3(x - 5), 1 + 3(y - 1))$	B has vertices (-1, 1), (-1, 4), (5, 1)	2	B2 — For the correctly enlarged triangle, labelled B. Award B1 for 2 correct image vertices.

Question 11 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
11(a)	Rain / no rain: 0.35 / 0.65 If rain: cancelled 0.8, not cancelled 0.2 If no rain: cancelled 0.1, not cancelled 0.9	Correct probability tree	2	B2 — For all branch probabilities correct. Award B1 for 2 correct probabilities.
11(b)	$(0.35 \times 0.8) + (0.65 \times 0.1)$ $= 0.28 + 0.065$	0.345	2	M1 — For the complete method: calculating and adding the two cancellation pathways. A1 — For 0.345, correct answer only.

Question 12 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
12	$3y = 2x + 12$ $y = (2/3)x + 4$ Parallel gradient = $2/3$ Intercept = 5	$y = (2/3)x + 5$	3	M1 — For rearranging L_1 to find gradient $2/3$. M1 — For using the parallel gradient and given intercept. A1 — For $y = (2/3)x + 5$ or equivalent.

Question 13 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
13	$a = 5, b = -6, c = -3$ $x = (6 \pm \sqrt{(36 + 60)})/10$ $x = 1.579795... \text{ or } -0.379795...$	$x = 1.58 \text{ or } x = -0.380$	3	M1 — For substituting $a = 5, b = -6, c = -3$ into the quadratic formula with correct signs. M1 — For evaluating the discriminant (96) and obtaining at least one valid unrounded root. A1 — For both roots, correctly rounded to 3 significant figures.

Question 14 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
14	First differences 5, 7, 9, 11; second difference 2. Subtract n^2 : 1, 3, 5, 7, 9.	$n^2 + 2n - 1$	3	M1 — Second differences or equivalent quadratic method. M1 — Coefficient of n^2 is 1; determine the linear remainder. A1 — Correct n th term.

Question 14 video solution



Question 15 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
15(a)	Straight line through $(-2,8)$, $(0,4)$, $(2,0)$, $(3,-2)$.	$y = -2x + 4$	3	B1 — Two correct points. B1 — Correct straight line through plotted points. B1 — Full specified range -2 to 3 .
15(b)	Triangle with vertices $(0,-1)$, $(0,4)$, $(2.5,-1)$. Boundaries included.	Shade this triangle and label R	2	M1 — Correct sides of the three boundaries. A1 — Correct complete triangular region labelled R.

Question 16 · 4 marks

Q / part	Working / method	Answer	Marks	Marking guidance
16(a)	$y = (3x - 5)/2$ $2y + 5 = 3x$ $x = (2y + 5)/3$	$f^{-1}(x) = (2x + 5)/3$	2	M1 — For rearranging to make the input the subject. A1 — For $f \text{ inverse}(x) = (2x + 5)/3$ or equivalent.
16(b)	$f(3) = (9 - 5)/2 = 2$ $g(2) = 2 \times 2^2 + 1 = 9$	$gf(3) = 9$	2	M1 — For calculating $f(3) = 2$ and using it as the input to g . A1 — For 9.

Question 17 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
17(a)	$QR^2 = 18^2 + 24^2 - 2 \times 18 \times 24 \cos 52^\circ$.	19.2 cm	3	M1 — Correct cosine rule. M1 — Evaluate and take the positive square root. A1 — 19.2 cm to three significant figures.
17(b)	Area $= \frac{1}{2} \times 18 \times 24 \times \sin 52^\circ$ $= 170.210322\dots$	170 cm ² (3 s.f.)	2	M1 — Correct triangle-area formula. A1 — 170 cm ² , or $1.70 \times 10^2 \text{ cm}^2$.

Question 18 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
18	Width = 10 s. Distance $\approx 10[\frac{1}{2}(0 + 95) + 70 + 88]$.	About 2055 m	3	M1 — Three strips of width 10. M1 — Correct trapezium-rule expression with graph readings. A1 — 2055 m; accept 2000–2150 m with reasonable consistent ordinates.

Question 18 video solution



Question 19 · 3 marks

Q / part	Working / method	Answer	Marks	Marking guidance
19	$\angle ADC = 72^\circ$ (cyclic quadrilateral). $\angle TDC = 108^\circ$ (straight line). $\angle ATC = 180^\circ - 108^\circ - 42^\circ$.	30°	3	M1 — 72° with the cyclic-quadrilateral reason, or 108° using the exterior-angle theorem. M1 — 108° at D with the straight-line reason, and use the triangle angle sum. A1 — 30° with all necessary geometrical reasons stated.

Question 20 · 5 marks

Q / part	Working / method	Answer	Marks	Marking guidance
20(a)	$[56 + (n - 8)(n - 9)]/[n(n - 1)] = 7/15$. $15(n^2 - 17n + 128) = 7n(n - 1)$.	$n^2 - 31n + 240 = 0$	3	M1 — Correct probability of two red plus two blue. M1 — Equate to 7/15 and clear denominators. A1 — Correct expansion and simplification to the required equation.
20(b)	$(n - 15)(n - 16) = 0$. Both satisfy $n > 8$.	$n = 15$ or $n = 16$	2	M1 — Correct factorisation or equivalent quadratic solution. A1 — Both possible values; neither can be rejected.

Question 21 · 6 marks

Q / part	Working / method	Answer	Marks	Marking guidance
21(a)	$OP = 2a$; $OQ = 6a + \frac{2}{3}(9b - 6a) = 2a + 6b$. $PQ = OQ - OP$.	$PQ = 6b$	2	M1 — Use both section ratios correctly. A1 — Correct vector $6b$.
21(b)	$PQ = 6b = \frac{2}{3}(9b) = \frac{2}{3}OB$.	PQ parallel to OB; $PQ:OB = 2:3$	4	M1 — Compare PQ and OB as scalar multiples. A1 — Correct multiplier $2/3$. B1 — Explain scalar multiples imply parallel directions. B1 — Correct length ratio $2:3$.