



Mark Scheme (Results) – November 2026

4MA1 Nov 2026 Paper 1 Best Guess Paper

———— Disclaimer ————

This paper has been created based on topics from previous years and careful analysis of what topics are highly likely to appear in paper 1H. The paper should be excellent at helping students revise for exams. This paper is specifically targeted at high-attaining students aiming for a Grade 9, so it is intentionally more rigorous and challenging than a standard real exam paper. The topics from this paper may well appear in the real exams, however there is absolutely no guarantee of this. There are deliberately more questions at a higher grade than you would expect.

Despite what you might see on social media it is not possible to “predict” the paper perfectly. This is usually what people say when they are selling you something. . .

The best way to prepare for the exams is to revise all topics

You can find a link to this paper and more completely free resources at www.mygrade9mathstutor.com

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The Playlist for Solutions can be found



The best way to work with this paper is work through it all, watch the Clip. If you get the question incorrect watch the clip again and then try the similar questions from the worksheets

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Pearson Edexcel IGCSE Mathematics A (4MA1)

Paper 1H (Best Guess Paper)

General Marking Guidance

- **M marks:** method marks, awarded for a correct method to be applied.
- **A marks:** accuracy marks, awarded only if the associated M mark has been gained.
- **B marks:** independent marks, awarded for a correct statement/result.
- **C marks:** communication marks, awarded for clear geometric reasoning.

Q	Working	Answer	Mark	Notes
1	$5040 \div 10 = 504, 504 \div 2 = 252 \dots \text{etc.}$	$2^4 \times 3^2 \times 5 \times 7$	2	M1 for complete prime factor tree/division A1 for correct product of powers
2	$\frac{3.6 \times 10^{22}}{4.5 \times 10^{-6}} = 0.8 \times 10^{28}$	8×10^{27}	2	M1 for 0.8×10^{28} A1 for 8×10^{27}
3	$9x + 6y = 48$ $8x - 6y = 54$ Add: $17x = 102 \implies x = 6$ Sub: $3(6) + 2y = 16 \implies y = -1$	$x = 6, y = -1$	3	M1 for equating coefficients M1 for eliminating a variable A1 for both x and y correct
4	(a) $a^6 \times a^{10}$ (b) $c^{30} \div c^{12}$ (c)(i) Factors of 24 summing to -11	a^{16} c^{18} $(x - 8)(x - 3)$	1 1 2	B1 B1 M1 for $(x \pm 8)(x \pm 3)$, A1 correct

Q	Working	Answer	Mark	Notes
	(c)(ii) $x^2 - 10xy + 24y^2 = 0$ (assuming typo in question paper) or substitution	$x = 8y, x = 3y$	1	B1 ft from (c)(i)
5	$x \times 0.88 \times 0.85 = 11220$ $x = 11220 \div (0.88 \times 0.85)$	15000	3	M1 for 0.88×0.85 or division M1 for complete correct method A1 for 15000 (£)
6	Midpoints: 2.5, 7.5, 12.5, 17.5, 22.5 $\Sigma fx = 15 + 105 + 225 + 140 + 90 = 575$ Mean = $575 \div 50$	11.5	3	M1 for identifying midpoints M1 for $\Sigma fx \div 50$ A1 for 11.5
7	$x = 0.3818181\dots$ $10x = 3.8181\dots$ $1000x = 381.8181\dots$ $990x = 378$	$\frac{21}{55}$	3	M1 for setting up $1000x$ and $10x$ M1 for subtraction to $990x = 378$ A1 for correct reduction to $\frac{21}{55}$
8	$QR^2 = 18^2 + 24^2 - 2(18)(24)\cos(52^\circ)$ $QR = \sqrt{368.07\dots}$ Area = $\frac{1}{2} \times 18 \times 24 \times \sin(52^\circ)$	19.2 170	5	M1 for Cosine Rule, A1 for 19.2 M1 for Area formula, A1 for 170.2 B1 for correct rounding to 3sf
9	$y = kt^2 \implies 20 = k(2^2) \implies k = 5$ $t = \frac{m}{\sqrt{x}} \implies 3 = \frac{m}{\sqrt{4}} \implies m = 6$ $y = 5 \left(\frac{6}{\sqrt{x}} \right)^2$	$y = \frac{180}{x}$	4	M1 for finding $k = 5$ M1 for finding $m = 6$ M1 for substitution

Q	Working	Answer	Mark	Notes
				A1 for simplified formula
10	Sector Area = $\frac{120}{360} \times \pi \times 15^2 = 75\pi$ Triangle Area = $\frac{1}{2}(15)^2 \sin(120^\circ)$ Segment = $75\pi - 112.5 \frac{\sqrt{3}}{2}$	138	4	M1 for Sector Area M1 for Triangle Area M1 for subtraction A1 for 138 (to 3sf)
11	$p(3y - k) = 2y + 5$ $3py - pk = 2y + 5$ $y(3p - 2) = pk + 5$	$y = \frac{pk+5}{3p-2}$	3	M1 for multiplying by denominator M1 for isolating y terms on one side A1 for correct subject
12	$s_{UB} = 150.5, u_{LB} = 11.5, t_{LB} = 3.95$ $a = \frac{2(150.5-11.5 \times 3.95)}{3.95^2}$	13.5	4	M1 for identifying correct bounds M1 for subbing into formula M1 for calculation 13.469... A1 for suitable degree of accuracy
13	$3x^2 - 14x - 5 \leq 0$ $(3x + 1)(x - 5) \leq 0$ Roots at $x = -1/3, x = 5$	$-\frac{1}{3} \leq x \leq 5$	3	M1 for forming quadratic = 0 M1 for factorising A1 for correct inequality range
14	$P(\text{same}) = \frac{8}{n} \cdot \frac{7}{n-1} + \frac{n-8}{n} \cdot \frac{n-9}{n-1} = \frac{7}{15}$ $15(56 + n^2 - 17n + 72) = 7(n^2 - n)$ $8n^2 - 248n + 1920 = 0 \implies n^2 - 31n + 240 = 0$ $(n - 15)(n - 16) = 0$	Proof $n = 15, 16$	5	M1 for probability sum M1 for equating to 7/15

Q	Working	Answer	Mark	Notes
				A1 for reaching given quadratic M1 for factorising, A1 for 15, 16
15	(a) $x(y - 3) = 2y + 1 \implies y(x - 2) = 3x + 1$ (b) $gf(x) = \left(\frac{2x+1}{x-3}\right)^2 - 4$ (c) $x^2 - 4 = 21 \implies x^2 = 25$	(a) $\frac{3x+1}{x-2}$ (b) $\frac{28x-35}{(x-3)^2}$ (c) ± 5	6	(a) M1, M1, A1 (3 marks) (b) M1 sub, A1 fraction (2 marks) (c) B1 ± 5 (1 mark)
16	$SA = x^2 + 4xh = 108 \implies h = \frac{108-x^2}{4x}$ $V = x^2\left(\frac{108-x^2}{4x}\right) = 27x - \frac{1}{4}x^3$ $\frac{dV}{dx} = 27 - \frac{3}{4}x^2 = 0 \implies x^2 = 36 \implies x = 6$ $V_{max} = 27(6) - \frac{1}{4}(216)$	Proof 108	7	M1 for SA formula, M1 for h A1 for Volume formula proof M1 diff, M1 set = 0, M1 solve A1 for 108
17	$x^2 + (7 - 2x)^2 - 4x + 2(7 - 2x) = 32$ $5x^2 - 36x + 31 = 0$ $(5x - 31)(x - 1) = 0 \implies x = 1, x = 6.2$	(1, 5) (6.2, -5.4)	5	M1 for substitution M1 for 3-term quadratic M1 for solving quadratic A2 for both coordinate pairs
18	(a) $\vec{AB} = -6a + 9b, \vec{AQ} = -4a + 6b$ $\vec{PQ} = \vec{PA} + \vec{AQ} = 4a - 4a + 6b = 6b$ (b) $\vec{PQ} = 6b = \frac{2}{3}(9b) = \frac{2}{3}\vec{OB}$	(a) 6b (b) Parallel Ratio 2 : 3	6	(a) B1 (b) M1 for finding $\vec{AB}$, M1 for $\vec{AQ}$ M1 for finding $\vec{PQ}$ A1 for recognizing scalar multiple A1 for stating parallel and 2 : 3

Q	Working	Answer	Mark	Notes
19	$10(2a + 19d) = 1155 \implies 2a + 19d = 115.5$ $(a + 4d) + (a + 14d) = 111 \implies 2a + 18d = 111$ $d = 4.5, a = 15$ $\frac{N}{2}(30 + 4.5(N - 1)) = 4110$	Proof $N = 40$	5	M1 for S_{20} sum M1 for $u_5 + u_{15}$ sum A1 for proving $a = 15, d = 4.5$ M1 for S_N quadratic, A1 for 40
20	(a) $VM^2 = 15^2 + 5^2 = 250 \implies VM = \sqrt{250}$ (b) $\tan \theta = \frac{15}{5} = 3$	(a) 15.8 (b) 71.6°	5	(a) M1 for Pythagoras, A1 for 15.8 (b) M1 for trig ratio, M1 $\tan^{-1}(3)$ A1 for 71.6°
21	$\frac{3(2x+1)-4(x-2)}{(x-2)(2x+1)} = 2$ $2x + 11 = 4x^2 - 6x - 4$ $4x^2 - 8x - 15 = 0 \implies (2x - 5)(2x + 3) = 0$	$x = 2.5$ $x = -1.5$	5	M1 for common denominator M1 for expanding numerators M1 for correct 3-term quadratic M1 for factorising/formula, A1 values
22	$\frac{4+4\sqrt{3}+3}{2-\sqrt{3}} = \frac{7+4\sqrt{3}}{2-\sqrt{3}}$ $\frac{(7+4\sqrt{3})(2+\sqrt{3})}{(2-\sqrt{3})(2+\sqrt{3})} = \frac{14+15\sqrt{3}+12}{1}$	$26 + 15\sqrt{3}$	4	M1 for expanding numerator M1 for multiplying by conjugate M1 for denominator evaluation A1 for correct simplified form
23	(a) Translation by $\begin{pmatrix} -3 \\ 0 \end{pmatrix}$, reflection in x -axis (b) Horizontal stretch factor 2, vertical factor 3	(a) $(-5, -5)$ (b) $(-4, 15)$	4	(a) M1 x -coord, A1 y -coord (2 marks) (b) M1 x -coord, A1 y -coord (2 marks)

Q	Working	Answer	Mark	Notes
24	ABCD is a cyclic quadrilateral. Angle CDA = $180^\circ - 108^\circ = 72^\circ$	72°	4	M1 for $180 - 108$ A1 for 72° C2 for formal reason: "Opposite angles in a cyclic quadrilateral sum to 180° "