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1MA1 Nov 2026 Paper 1 Best Guess Paper

Mark Scheme

FOCUS Grade 4/5

----- Disclaimer -----

We've analysed past exam trends to create this highly targeted revision paper. Because it is specifically built to help you secure a Grade 4 or 5 on the Higher Tier, we have deliberately stripped out some of the Grade 7+ content you would find in a real exam. This lets you focus your energy on the marks that matter most for your target grade—in fact, you can safely ignore Questions 20 onwards if you prefer!

A Word of Warning: Despite what you might see on TikTok or Instagram, it is impossible to perfectly predict an exam paper. When people claim they can, they are usually just trying to sell you something. Use this paper to test your knowledge and build confidence but remember there are no guarantees. Thorough revision across all topics is always your best strategy.

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

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The Playlist for Solutions can be found



<https://www.youtube.com/playlist?list=PLWKqjICISQUM>

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

Mark Scheme: Questions 1 - 10

Q	Working	Answer	Mark	Notes
1	$2\frac{1}{4} = \frac{9}{4}$ $\frac{9}{4} \times \frac{5}{3}$	$3\frac{3}{4}$	3	M1 for converting mixed number to improper fraction $\frac{9}{4}$ M1 for multiplying by the reciprocal $\frac{5}{3}$ or finding common denominator eg $\frac{27}{12} \div \frac{12}{12}$ A1 for $3\frac{3}{4}$ (or $\frac{15}{4}$). Accept cao.
2	Difference in ratio = $9 - 2 = 7$ parts 1 part = $\pounds 35 \div 7 = \pounds 5$ Ben = 5×5	£25	2	M1 for $35 \div (9 - 2)$ or finding 1 part = 5 A1 for 25
3a	Points to plot at midpoints: (5, 14), (15, 18), (25, 4), (35, 6), (45, 6), (55, 2)	Correct polygon drawn	2	B1 for correctly plotting points at mid-interval values B1 for joining points with straight lines (do not accept curve)
3b		$10 < t \leq 20$	1	B1 cao
4a		a^{16}	1	B1 cao
4b		c^{18}	1	B1 cao
4c		$6xy(3x - 4y)$	2	B2 for fully factorised form (B1 for partial factorisation eg $2xy(9x - 12y)$ or $6x(3xy - 4y^2)$)
5	(i) Need factors of 24 that sum to -10. -4 and -6.	(i) $(x - 4)(x - 6)$ (ii) $x = 4, x = 6$	3	(i) M1 for $(x \pm 4)(x \pm 6)$ A1 for correct answer (ii) B1 ft from their factors in (i)
6		$0.0455 \leq y < 0.0465$	2	B2 for fully correct error interval (B1 for 0.0455 or 0.0465 seen)
7a	$A = \{1, 2, 3, 4, 6, 12\}$ $B = \{3, 6, 9, 12\}$ Intersection (in both): 3, 6, 12	3, 6, 12	2	B2 for all 3 correct (no extras) (B1 for 2 correct with no extras OR all 3 correct with 1 extra)
7b	$A \cup B = \{1, 2, 3, 4, 6, 9, 12\}$ Count is 7 numbers out of 12 total.	$\frac{7}{12}$	2	M1 for identifying the 7 members of the union A1 for $\frac{7}{12}$ oe

Q	Working	Answer	Mark	Notes
8	$100\% - 20\% = 80\%$ $0.8 \times x = 72$ $x = 72 \div 0.8 = 90$	£90	2	M1 for recognizing 72 is 80% (eg $72 \div 0.8$ or $72 \div 8 \times 10$) A1 for 90
9	(a) $r \approx 20, \pi \approx 3$ $\text{Area} \approx 3 \times 20^2 = 3 \times 400$ (b) Overestimate, as both radius and (likely) pi are rounded up.	(a) 1200 (b) Overestimate + reason	3	(a) M1 for rounding radius to 20 A1 for 1200 (or 1256 if π is kept as 3.14) (b) C1 for stating overestimate with valid reason (eg $20 > 19.8$)
10	(a) Move decimal 5 places right. (b) $(3.2 \times 5) \times (10^4 \times 10^3)$ $= 16 \times 10^7 = 1.6 \times 10^8$	(a) 4.07×10^{-5} (b) 1.6×10^8	3	(a) B1 cao (b) M1 for 16×10^7 or 160,000,000 A1 cao

Q	Working	Answer	Mark	Notes
11	(a) $3\binom{4}{-3} + 2\binom{-2}{5} = \binom{12}{-9} + \binom{-4}{10}$ (b) $2a - b = 2\binom{4}{-3} - \binom{-2}{5} = \binom{8}{-6} - \binom{-2}{5} = \binom{10}{-11}$ So $k = -11$ (c) $(3, -1) + (-5, 4) = (3-5, -1+4) = (-2, 3)$	(a) $\binom{8}{1}$ (b) -11 (c) $(-2, 3)$	5	(a) M1 for evaluating one scalar mult correctly A1 for correct vector (b) M1 for setting up vector arithmetic A1 for -11 (c) B1 cao
12	Multiply (1) by 3: $9x + 6y = 48$ Multiply (2) by 2: $8x - 6y = 54$ Add equations: $17x = 102 \Rightarrow x = 6$ Substitute back: $3(6) + 2y = 16$ $18 + 2y = 16 \Rightarrow 2y = -2 \Rightarrow y = -1$	$x = 6, y = -1$	3	M1 for equating coefficients of one variable M1 (dep) for substituting found value to find second variable A1 for both correct
13	Interior angle of regular hexagon $= (6-2) \times 180 / 6 = 120^\circ$ Interior angle of regular pentagon $= (5-2) \times 180 / 5 = 108^\circ$ Angles round a point sum to 360°. $x = 360 - (120 + 108) = 132^\circ$	132°	3	M1 for finding 120° or 108° M1 for $360 - (their\ 120) - (their\ 108)$ A1 cao
14	$R : B = 3 : 4$ $B : Y = 2 : 5 \Rightarrow 4 : 10$ $R : B : Y = 3 : 4 : 10$ Total parts $= 3 + 4 + 10 = 17$ Yellow is 10 parts out of 17. Half would be 8.5 out of 17.	No, with reasoning	3	M1 for scaling ratios to match B ($R:B:Y = 3:4:10$) M1 for expressing yellow as a fraction of total ($\frac{10}{17}$) C1 for stating No and providing correct reasoning
15	$B : D = 5 : 3 = 20 : 12$ $D : R = 4 : 1 = 12 : 3$ Initial $B:D:R = 20x : 12x : 3x$. (Total $35x$) Books sold: $0.4 \times 20x = 8x$ DVDs sold: $\frac{1}{6} \times 12x = 2x$ Total sold $= 10x$. Left $= 35x - 10x = 25x$ $25x = 150 \Rightarrow x = 6$ Total sold $= 10 \times 6 = 60$	60	5	M1 for unifying ratio $B:D:R = 20:12:3$ M1 for finding proportion sold ($8x$ and $2x$) M1 for setting up an equation for amount left (eg $25x = 150$) A1 for finding the multiplier $x = 6$ A1 cao
16	Mass of A $= 1.2 \times 300 = 360$ g Mass of B $= 0.8 \times 200 = 160$ g Total Mass $= 360 + 160 = 520$ g Total Volume $= 300 + 200 = 500$ cm³ Density C $= 520 \div 500 = 1.04$	1.04	3	M1 for finding mass of A and mass of B M1 for $(\text{Total Mass}) \div (\text{Total Volume})$ A1 for 1.04

Q	Working	Answer	Mark	Notes
17	(a) Cumulative freq: 8, 23, 60, 70, 77, 80 (b) Plotting at end points (200,8).. (c) Median is at $CF = 40$. (d) UQ at $CF = 60$ (400), LQ at $CF = 20$ (~290). $IQR = 400 - 290$. (e) CF at 430 is approx 63. $80 - 63 = 17$.	(a) CFs correct (b) Correct graph (c) $\approx 340-350$ (d) $\approx 110-120$ (e) ≈ 17	8	(a) B1 for correct CF column (b) B2 for fully correct curve (points at upper bounds) (c) B1 for reading median accurately from their graph (d) M1 for UQ – LQ, A1 for answer in range (e) M1 for reading CF at 430 and subtracting from 80, A1 for answer in range

Q	Working	Answer	Mark	Notes
18	Let $x = 0.38181...$ $10x = 3.8181...$ $1000x = 381.8181...$ $1000x - 10x = 381.81... - 3.81...$ $990x = 378$ $x = \frac{378}{990} = \frac{189}{495} = \frac{63}{165} = \frac{21}{55}$	Proof	3	M1 for generating two equations with matching decimal parts (eg $1000x$ and $10x$, or $100x$ and x) M1 for subtracting to eliminate recurring part (eg $990x = 378$) A1 for fully simplifying to $21/55$
19	$(x - 2)(x + 3) = x^2 + x - 6$ $(x^2 + x - 6)(2x + 1)$ $= 2x^3 + x^2 + 2x^2 + x - 12x - 6$ $= 2x^3 + 3x^2 - 11x - 6$	$2x^3 + 3x^2 - 11x - 6$	3	M1 for expanding any two brackets to get a correct 3-term quadratic M1 for expanding the quadratic with the remaining bracket (allow 1 error) A1 cao
20	Numerator: $(x + 3)(x - 3)$ Denominator: $2x^2 + 5x - 3 = (2x - 1)(x + 3)$ Cancel common factor $(x + 3)$	$\frac{(x - 3)}{(2x - 1)}$	3	M1 for factorising numerator M1 for factorising denominator A1 cao
21	$p^2 = \frac{(2y + 5)}{(3y - k)}$ $p^2(3y - k) = 2y + 5$ $3yp^2 - kp^2 = 2y + 5$ $3yp^2 - 2y = kp^2 + 5$ $y(3p^2 - 2) = kp^2 + 5$ $y = \frac{(kp^2 + 5)}{(3p^2 - 2)}$	$y = \frac{(kp^2 + 5)}{(3p^2 - 2)}$	3	M1 for squaring both sides and multiplying out denominator M1 for isolating all terms containing y on one side and factorising y A1 cao
22	$y = 3(x^2 - 4x) + 7$ $= 3[(x - 2)^2 - 4] + 7$ $= 3(x - 2)^2 - 12 + 7$ $= 3(x - 2)^2 - 5$ Turning point is $(2, -5)$	$(2, -5)$	3	M1 for taking factor of 3 out: $3(x^2 - 4x ...)$ M1 for completing the square inside: $(x - 2)^2 - 4$ A1 cao
23	Numerator: $(2 + \sqrt{3})^2 = 4 + 4\sqrt{3} + 3 = 7 + 4\sqrt{3}$ Rationalise: Multiply by $\frac{(2 + \sqrt{3})}{(2 + \sqrt{3})}$ $\frac{(7 + 4\sqrt{3})(2 + \sqrt{3})}{(4 - 3)}$ Numerator $= 14 + 7\sqrt{3} + 8\sqrt{3} + 12 = 26 + 15\sqrt{3}$ Denominator $= 1$	$26 + 15\sqrt{3}$	4	M1 for expanding $(2 + \sqrt{3})^2$ to $7 + 4\sqrt{3}$ M1 for multiplying numerator and denominator by $2 + \sqrt{3}$ M1 for expanding the new numerator A1 for $26 + 15\sqrt{3}$ ($a=26$, $b=15$)