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1MA1 Nov 2026 Paper 2 Best Guess Paper

Foundation Model Answers

————————————- Disclaimer ————————————-

This practice paper has been designed using a careful analysis of historical exam trends to identify topics highly likely to appear in the 1MA1 2F paper. It is an excellent revision tool specifically structured for students targeting a Grade 5. The paper establishes essential foundational skills in the opening questions before focusing heavily on the critical Grade 4 and 5 crossover topics required to secure top marks.

While the topics covered here are highly relevant, there is absolutely no guarantee they will appear in the actual exam. Despite claims frequently seen on social media, it is impossible to perfectly "predict" an exam paper—such statements are typically sales tactics. The most effective preparation strategy will always be a comprehensive revision of the entire mathematics specification.

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

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The Playlist for Solutions can be found

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

Foundation Paper 2F · Model Answers

GCSE Mathematics 1MA1 · November 2026 · Target 4/5 · Step-by-step worked solutions

Question 1 · Fractions

(a) The rectangle is split into 6 squares. To shade 1/3, calculate (1/3) × 6 = 2. Shade any 2 squares.

(b) The hexagon is divided into 6 identical triangles. Since 1 is shaded, the fraction is 1/6.

(c) The decimal 0.7 represents 7 tenths, which is written as 7/10.

Answer: (a) Any 2 squares shaded (b) 1/6 (c) 7/10

Question 2 · Pictograms

(a) The key shows 1 full circle equals 40 books. Wednesday has 4 full circles, so 4 × 40 = 160 books were sold.

(b) Friday sold 70 books. Divide the total by the key value: 70 ÷ 40 = 1.75. You must draw 1 full circle and 3/4 of a circle on the Friday row.

Answer: (a) 160 books (b) 1 full circle and 3/4 circle

Question 3 · Negative Numbers and Temperature

(a) The lowest temperature in the midnight column is –5 °C, which was recorded in Tehran.

(b) The difference between 9 °C and –2 °C is 9 – (–2) = 11 °C.

(c) The midday temperature in Tehran on Monday was 3 °C. It decreased by 2 °C for 3 consecutive days (Tuesday, Wednesday, Thursday), resulting in a total drop of 6 °C.
3 – 6 = –3 °C.

Answer: (a) Tehran (b) 11 °C (c) –3 °C

Question 4 · Number Machines

(a) Pass 7 through the machine: (7 × 5) + 12 = 35 + 12 = 47.

(b) Pass –3 through the machine: (–3 × 5) + 12 = –15 + 12 = –3.

Answer: (a) 47 (b) –3

Question 5 · Combinations and Ratio

(a) Systematically pair each sandwich with each snack:
HA, HB, HM
CA, CB, CM
TA, TB, TM

(b) The ratio of Tom to Ben is 2 : 5. Add the parts together to find the total: 2 + 5 = 7 parts. Ben receives 5 of those parts, making his fraction 5/7.

Answer: (a) All 9 combinations (b) 5/7

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Question 6 · Multi-Step Money Problem

Step 1: Find the cost of one notebook. £6.80 ÷ 4 = £1.70.

Step 2: Find the cost of 3 notebooks. 3 × £1.70 = £5.10.

Step 3: Subtract the cost of the notebooks from the total to find the cost of 5 pens. £11.35 – £5.10 = £6.25.

Step 4: Divide to find the cost of 1 pen. £6.25 ÷ 5 = £1.25.

Answer: One pen costs £1.25

Question 7 · Arithmetic Sequences

(a) The sequence increases by 4 each time, so the formula starts with 4n. The “zeroth” term before the 3 would be 3 – 4 = –1. The nth term is 4n – 1.

(b) Set the expression equal to 87 and solve:
4n – 1 = 87 ⇒ 4n = 88 ⇒ n = 22.
Because n resolves to a whole number, 87 is exactly the 22nd term in the sequence.

Answer: (a) 4n – 1 (b) 87 is the 22nd term

Question 8 · Coordinates and Geometry

(a) Draw a solid vertical straight line that passes directly through –3 on the x-axis.

(b) Use the midpoint formula $((x_1 + x_2)/2, (y_1 + y_2)/2)$. The coordinates are A(–3, 2) and B(5, –4).
Midpoint = ((–3 + 5)/2, (2 – 4)/2) = (1, –1).

(c) Calculate the length of line segment AB using Pythagoras’ theorem:
$AB = \sqrt{(8^2 + (-6)^2)} = \sqrt{100} = 10$.
Because the triangle is isosceles (AB = BC) and C shares the same x-coordinate as B, the vertical distance from B to C must be 10.
c – (–4) = 10 ⇒ c = 6.

Answer: (a) x = –3 (b) (1, –1) (c) c = 6

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Question 9 · Polygons and Angles

Step 1: Calculate interior angle PSR of the quadrilateral. Angles in a quadrilateral sum to 360°.
360° – 65° – 105° – 75° = 115°.

Step 2: Calculate angle PST. Angles on a straight line sum to 180°.
180° – 115° = 65°.

Step 3: Calculate angle PTS. Base angles of an isosceles triangle (PT = PS) are equal, so angle PTS is also 65°.

Step 4: Find x. Angles in a triangle sum to 180°.
180° – (65° + 65°) = 50°.

Answer: x = 50°

Question 10 · Probability

Step 1: Establish the probability of landing on 4. The table states the probability of 1 is 0.15. The question states landing on 4 is the same as 1, so P(4) = 0.15.

Step 2: Multiply the probability by the total number of spins.
300 × 0.15 = 45.

Answer: 45 spins

Question 11 · Inequalities

(a) Solve it exactly like a normal equation. Add 5 to both sides: $3x > 15$. Divide by 3: $x > 5$.

(b) Draw an open circle at 5 on the number line (to signify it does not equal 5), and draw a straight line/arrow pointing to the right.

Answer: (a) x > 5 (b) Open circle at 5; arrow to the right

Question 12 · Averages Problem Solving

Step 1: The median is the middle value, which falls halfway between 10 and q.
$(10 + q)/2 = 11 \Rightarrow 10 + q = 22 \Rightarrow q = 12$.

Step 2: The mode is the most frequent number (19). Because r appears twice, both r values must be 19.

Step 3: The range is 16. The range is the largest value (19) minus the smallest value (p).
$19 – p = 16 \Rightarrow p = 3$.

Answer: p = 3, q = 12, r = 19

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Question 13 · Estimated Mean from Grouped Data

Step 1: Identify the midpoints for each class interval (x):
2.5, 7.5, 12.5, 17.5, 22.5.

Step 2: Multiply each midpoint by its frequency to create an fx column:
6 × 2.5 = 15
14 × 7.5 = 105
18 × 12.5 = 225
8 × 17.5 = 140
4 × 22.5 = 90

Step 3: Sum the fx values: 15 + 105 + 225 + 140 + 90 = 575.

Step 4: Divide by the total frequency (50): 575 ÷ 50 = 11.5 kg.

Answer: Estimated mean = 11.5 kg

Question 14 · Compound Interest

Step 1: Set up the compound interest calculation:
Principal × (Multiplier)$^{\text{Years}}$.
A 3.1% increase gives a multiplier of 1.031.

Step 2: Evaluate £5200 × $(1.031)^4$ = £5875.407655…

Step 3: Round to two decimal places for currency.

Answer: £5875.41

Question 15 · Algebra

(a) Apply the power of 5 to the coefficient ($2^5 = 32$) and multiply the indices ($(p^3)^5 = p^{15}$). Result: $32p^{15}$.

(b) Expand the brackets:
$2p(4p - 3) = 8p^2 - 6p$ and $-p(p - 4) = -p^2 + 4p$.
Collect the like terms:
$8p^2 - p^2 - 6p + 4p = 7p^2 - 2p$.

(c) Rearrange t = 4c + d. Subtract d from both sides: t − d = 4c. Divide by 4: c = (t − d)/4.

Answer: (a) $32p^{15}$ (b) $7p^2 - 2p$ (c) c = (t − d)/4

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Question 16 · Forming Equations with Shapes

Step 1: Opposite sides of a rectangle are equal in length. Equate the two algebraic expressions: $5x - 1 = 3x + 5$.

Step 2: Solve for x. $2x = 6 \Rightarrow x = 3$.

Step 3: Find the vertical height by substituting x into an expression.
$5(3) - 1 = 14$ cm.

Step 4: Calculate the area using base × height. $14 \times 24 = 336$ cm^2.

Answer: Area = 336 cm^2

Question 17 · Fractions, Percentages & Ratio

Step 1: Find the value of one ratio part. Total parts = 7 + 3 + 2 = 12.
$720 \div 12 = 60$.

Step 2: Find the total quantities of each bulb. Tulips = 420, Crocus = 180, Daffodils = 120.

Step 3: Calculate the yellow quantities for each type:
Yellow Tulips: 40% of 420 = 168.
Yellow Crocus: (2/3) × 180 = 120.
Yellow Daffodils: (3/4) × 120 = 90.

Step 4: Total the yellow bulbs: 168 + 120 + 90 = 378.

Answer: 378 yellow bulbs

Question 18 · Percentage Decrease

Step 1: Calculate the absolute decrease in sales: 600 – 432 = 168 pairs.

Step 2: Divide the decrease by the original amount and multiply by 100:
(168/600) × 100 = 28%.

Answer: 28% decrease

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Question 19 · Transformations

(a) A 90° anticlockwise rotation around (0, 0) maps (x, y) to (–y, x). The vertices (3, 1), (5, 1), (3, 2) move to (–1, 3), (–1, 5), (–2, 3). Connect these to draw Triangle C.

(b) To enlarge from centre (5, 1) with scale factor 3, multiply the vector distance from the centre to each point by 3.
The point at (5, 1) remains at (5, 1).
Point (3, 1) moves from 2 left to 6 left at (–1, 1).
Point (3, 2) moves from 2 left, 1 up to 6 left, 3 up at (–1, 4).
Connect these to draw Triangle B.

Answer: (a) C: (–1, 3), (–1, 5), (–2, 3)
(b) B: (–1, 1), (–1, 4), (5, 1)

Question 20 · Right-Angled Triangles: Pythagoras & SOHCAHTOA

Step 1: Find the shared horizontal side using Pythagoras' theorem on the top triangle.
Base = $\sqrt{(15^2 - 9^2)} = \sqrt{144} = 12$ cm.

Step 2: Use trigonometry on the bottom triangle. The 40° angle is opposite the 12 cm side, and x is the hypotenuse.
The ratio is $\sin(40°) = 12/x$.

Step 3: Rearrange and solve:
$x = 12/\sin(40°) = 18.668\ldots$ cm.
Give the answer to 1 decimal place.

Answer: x = 18.7 cm

Question 21 · Probability Trees

(a) The branches for the first event sum to 1:
Rain = 0.35, Does not rain = 0.65.
For the second event, the "Rains" branches are Cancelled = 0.8, Not Cancelled = 0.2.
The "Does not rain" branches are Cancelled = 0.1, Not Cancelled = 0.9.

(b) Calculate the probability of cancellation by multiplying along the two successful pathways and summing them:
$(0.35 \times 0.8) + (0.65 \times 0.1) = 0.28 + 0.065 = 0.345$.

Answer: (a) Complete the tree with the probabilities above
(b) P(cancelled) = 0.345

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Question 22 · Area of Circles Problem Solving

Step 1: Calculate the area of the large outer semicircle using r = 5.
Area = $(1/2)\pi \times 5^2 = 12.5\pi$.

Step 2: Calculate the area of the small inner empty semicircle using r = 3.
Area = $(1/2)\pi \times 3^2 = 4.5\pi$.

Step 3: Find the total paved area by subtracting the two semicircles:
$12.5\pi - 4.5\pi = 8\pi$ m^2.

Step 4: Calculate the total cost:
$8\pi \times £24 = £603.185789\ldots$
Yes, Jo has enough money because the £603.19 cost is well under her £1200 budget.

Answer: Yes — the cost is £603.19, less than £1200

Question 23 · Similar Triangles

Step 1: Determine the linear scale factor by dividing the corresponding base sides: 18 ÷ 6 = 3.

(a) To find DF (the smaller triangle), divide the corresponding larger side by the scale factor: 15 ÷ 3 = 5 cm.

(b) To find BC (the larger triangle), multiply the corresponding smaller side by the scale factor: 8 × 3 = 24 cm.

Answer: (a) DF = 5 cm (b) BC = 24 cm

Question 24 · Straight Line Equations

Step 1: Find the gradient of line L_1 by rearranging its equation into the format y = mx + c.
$3y - 2x = 12 \Rightarrow 3y = 2x + 12 \Rightarrow y = (2/3)x + 4$.
The gradient m is 2/3.

Step 2: Because L_2 is parallel, it has the exact same gradient: m = 2/3.

Step 3: Because L_2 passes directly through the y-axis at coordinate (0, 5), its y-intercept c = 5.

Answer: y = (2/3)x + 5