

Mark Scheme

Mock Paper – Set 1

Pearson Edexcel GCSE
In Mathematics (1MA1)
Foundation (Non-Calculator) Paper 2F

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General marking guidance

These notes offer general guidance, but the specific notes for examiners appertaining to individual questions take precedence.

- 1** All candidates must receive the same treatment. Examiners must mark the last candidate in exactly the same way as they mark the first.

Where some judgement is required, mark schemes will provide the principles by which marks will be awarded; exemplification/indicative content will not be exhaustive. When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the response should be sent to review.

- 2** All the marks on the mark scheme are designed to be awarded; mark schemes should be applied positively. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme. If there is a wrong answer (or no answer) indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.

Questions where working is not required: In general, the correct answer should be given full marks.

Questions that specifically require working: In general, candidates who do not show working on this type of question will get no marks – full details will be given in the mark scheme for each individual question.

- 3** **Crossed out work**

This should be marked **unless** the candidate has replaced it with an alternative response.

- 4** **Choice of method**

If there is a choice of methods shown, mark the method that leads to the answer given on the answer line.

If no answer appears on the answer line then mark both methods **as far as they are identical** and award these marks.

- 5** **Incorrect method**

If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks. Send the response to review for your Team Leader to check.

6 Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working as you can check the answer, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

7 Ignoring subsequent work

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question or its context. (eg. an incorrectly cancelled fraction when the unsimplified fraction would gain full marks).

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect (eg. incorrect algebraic simplification).

8 Probability

Probability answers must be given as a fraction, percentage or decimal. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).

Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.

If a probability answer is given on the answer line using both incorrect and correct notation, award the marks.

If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

9 Linear equations

Unless indicated otherwise in the mark scheme, full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously identified in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded (embedded answers).

10 Range of answers

Unless otherwise stated, when an answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and all numbers within the range.

Guidance on the use of abbreviations within this mark scheme

M	method mark awarded for a correct method or partial method
P	process mark awarded for a correct process as part of a problem solving question
A	accuracy mark (awarded after a correct method or process; if no method or process is seen then full marks for the question are implied but see individual mark schemes for more details)
C	communication mark
B	unconditional accuracy mark (no method needed)
oe	or equivalent
cao	correct answer only
ft	follow through (when appropriate as per mark scheme)
sc	special case
dep	dependent (on a previous mark)
indep	independent
awrt	answer which rounds to
isw	ignore subsequent working

Mark scheme GCSE (9 – 1) Mathematics

Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
1			4.913	1	B1 cao
2			2:3	1	B1 cao
3			Chord drawn	1	B1
4			Parallelogram	1	B1 complete parallelogram
5			AB, AO, AP BO, BP, OP	2	M1 at least 3 correct combinations A1 fully correct with no extras or permutations
6	(a)		No with explanation	1	C1 no with explanation e.g. numbers in the sequence are even and 603 is not even or numbers in the sequence are multiples of 6 and 603 is not a multiple of 6 or $6n + 12 = 603$ with n is not an integer
	(b)		42 or multiple of 42	1	B1 42 or multiple of 42

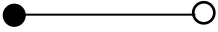
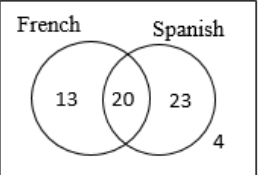
Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
7			Shape A	2	P1 finds total perimeter, 14 or 12, or missing edges 4, or 6, for one shape. A1 shape A with 14 and 12 or 4 and 6
8			4.25	3	M1 uses scale $8.5 \times 50000 (= 425000)$ M1 starts conversion to km “425000” $\div 100$ or “425000” $\div 1000$ or “425000” $\div 100000$ A1 cao
9			Explanation	2	M1 for using angles on a straight line add up to 180° or $146 + 32 (= 178)$ C1 explanation with $178 \neq 180$ and reason <u>angles</u> on a straight <u>line</u> add up to <u>180</u>
10			65.25	3	M1 method for number of packs needed $120 \div 8 (= 15)$ M1 method for total cost “15” $\times 4.35$ A1 cao

Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
11	(a)		Explanation	1	C1 34 is not a multiple of 3 oe
	(b)		Explanation	2	C1 explains order of operations not correct oe C1 explains inverse of $\times 2$ not used oe
12			2.18	3	M1 1.643... or 8.143... M1 (= 2.1773.....) B1 2.18 or ft
13			£0.86 or 86p	3	P1 adds any 3 items or choses the highest priced drink and 2 snacks (1.50, 1.75, 1.60) or subtracts 3.99 from the cost of at least 2 items P1 complete process to find the difference A1 £0.86 or 86p
14			35.5	3	M1 $\frac{3}{8} \times 100 (= 37.5)$ or $\frac{27}{100} + \frac{3}{8} \left(= \frac{129}{200} \right)$ M1 $100 - 27 - "37.5"$ or $1 - \frac{129}{200}$ A1 cao

Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
15	(a)		135.80	4	<p>P1 starts process to find the number of stones</p> <p>$6 \div 1.5$</p> <p>or $1.5 \div 5$ and $1.5 \div 3$</p> <p>or attempts to draw repeat of the pattern</p> <p>P1 completes process to find total number of stones</p> <p>or to find the cost of 1.5m of the path</p> <p>$(5 + 5) \times 4 (= 40)$ and $3 \times 4 (= 12)$</p> <p>or $2 \times 6 \div 0.3 (= 40)$ and $6 \div 0.5 (= 12)$</p> <p>P1 process to find total cost</p> <p>$"40" \times 2.3 + "12" \times 3.65 (= 135.8)$</p> <p>A1 135.8(0)</p>
	(b)		<p>No</p> <p>$87.6 > 67.9$</p> <p>with evidence</p>	2	<p>M1 method to find costs of narrow path to compare</p> <p>$6 \times 4 \times 2 \times 3.65 (= 175.2)$</p> <p>or $6 \times 4 \times 3.65 (= 87.6)$ and $"135.8" \div 2 (= 67.9)$</p> <p>C1 correct conclusion with 175.2 (accept correct comparison with ft from part (a))</p> <p>or correct conclusion with 67.9 and 87.6 (accept correct comparison with ft part (a) $\div 2$)</p>

Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
16			No with reason	3	<p>P1 process to find September profit $780 - 565 (= 215)$</p> <p>P1 completes process to find extra October profit $\frac{13}{100} \times 215$</p> <p>C1 no with reason comparing 27.95 with 30</p>
17			20	1	B1 cao
18			Integer > 21	2	<p>B1 integer > 21</p> <p>C1 explanation</p> <p>e.g. “answer” > 21, “answer” \div 21 > 1</p> <p>“answer” \div 6 > 3.5</p> <p>conversion to decimals with explanation</p>
19			459	3	<p>M1 $\frac{32}{100} \times 675 (= 216)$ oe or $100 - 32 (= 68)$</p> <p>M1 $675 - “216”$ or 0.68×675</p> <p>A1 cao</p>

Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
20			$\frac{1}{7}$	3	<p>P1 for process to start solving the problem, e.g. 25, 75, 75 or $25 + 75 + 75 (= 175)$ or $\frac{1}{4} + \frac{3}{4} + \frac{3}{4} \left(= 1\frac{3}{4} \right)$ or ratio e.g. 3 : 3 : 1 P1 for complete process $25 \div 175$ or $\frac{1}{4} \div 1\frac{3}{4}$ A1 $\frac{1}{7}$ oe</p>
21			210	4	<p>P1 process for total girls in Year 7 $\frac{177}{360} \times 240 (= 118)$ P1 process for total students in Year 8 $240 + 8 - 32 (= 216)$ or number of girls in Year 8 (126) P1 complete method for angle for Year 8 girls $\frac{"118"+8}{"216"} \times 360$ A1 cao</p>

Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
22	(a)		 -2 3	2	M1 correct length line or one correct end and line A1 cao
	(b)		$n > 4.8$	2	M1 for subtracting 3 from both sides or dividing all terms by 5 as a first step ($n = 4.8$) A1 cao
23	(a)		Correct diagram	3	B1 13 and 20 in correct positions M1 $43 - 20 (= 23)$ or $60 - 43 - 13 (= 4)$ A1 correct diagram
	(b)		$\frac{4}{60}$	1	B1 $\frac{4}{60}$ oe or ft Venn diagram for $\frac{4}{60}$

Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
24			Rotation 90° anti-clockwise centre (0, -1)	2	M1 for 2 of: Rotation, 90° anti-clockwise (or 270° clockwise) (centre) (0, -1) A1 correct transformation No marks to be awarded if more than one transformation is given.
25	(a)		Reason	1	C1 reason for low attendance in hot weather, e.g. rain, school day, measurement error
	(b)		Positive	1	B1 positive (correlation)
	(c)		15-25	1	B1 answer in range 15-25
	(d)		Data out of range	1	C1 explanation, e.g. extrapolation, data out of range, number of children will be negative

Mock Paper 1MA1: 2F					
Question		Working	Answer	Mark	Notes
26			13 m^2	5	<p>P1 process to find FE $(28 - 6 - 6) \div 2 (= 8)$ or AB $(28 - 6 - 6 - 3 - 3) \div 2 (= 5)$ P1 process to find area of a triangle $\frac{4 \times 8}{2} (= 16)$ or $\frac{6 \times 3}{2} (= 9)$ or $\frac{5 \times 4}{2} (= 10)$ or $\frac{2 \times 3}{2} (= 3)$ P1 complete process for shaded area e.g. $8 \times 4 + 2 \times 3 - ("16" + "9")$ or $\frac{5 \times 4}{2} + \frac{2 \times 3}{2}$ A1 cao C1 (indep) for m^2</p>
27			$x = 3, y = -2$	3	<p>M1 correct process to eliminate one variable (condone one arithmetic error) M1 (dep) for substituting found value in one of the equations or appropriate method after starting again. A1 cao</p>

Mock Paper 1MA1: 2F																												
Question		Working							Answer	Mark	Notes																	
28	(a)	<table><tr><td>x</td><td>0.5</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>y</td><td>6</td><td>3</td><td>1.5</td><td>1</td><td>0.75</td><td>0.6</td><td>0.5</td></tr></table>							x	0.5	1	2	3	4	5	6	y	6	3	1.5	1	0.75	0.6	0.5	Correct table	2	M1 2 or 3 entries correct A1 all 4 table entries correct	
	x	0.5	1	2	3	4	5	6																				
y	6	3	1.5	1	0.75	0.6	0.5																					
	(b)								Graph	2	M1 (dep on M1) for 6 or 7 points plotted from table A1 correct graph drawn																	
29									371.42	2	M1 350×1.02^3 oe A1 371.42																	