



Pearson
Edexcel

Mark Scheme (Results)

November 2020

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

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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, mark both methods **then award the lower number of 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 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 (eg 3.5 – 4.2) then this is inclusive of the end points (eg 3.5, 4.2) and all numbers within the range.

11 Number in brackets after a calculation

Where there is a number in brackets after a calculation eg $2 \times 6 (=12)$ then the mark can be awarded **either** for the correct method, implied by the calculation **or** for the correct answer to the calculation.

12 Use of inverted commas

Some numbers in the mark scheme will appear inside inverted commas eg “12” \times 50 ; the number in inverted commas cannot be any number – it must come from a correct method or process but the candidate may make an arithmetic error in their working.

13 Word in square brackets

Where a word is used in square brackets eg [area] \times 1.5 : the value used for [area] does **not** have to come from a correct method or process but is the value that the candidate believes is the area. If there are any constraints on the value that can be used, details will be given in the mark scheme.

14 Misread

If a candidate misreads a number from the question eg uses 252 instead of 255; method or process marks may be awarded provided the question has not been simplified. Examiners should send any instance of a suspected misread to review.

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 awarded for a fully correct statement(s) with no contradiction or ambiguity
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

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
1	0.309, 0.32, 0.35, 0.4	B1	for 0.309, 0.32, 0.35, 0.4	Accept written in reverse order: 0.4, 0.35, 0.32, 0.309
2	18	B1	cao	18 must be the only number selected for this award
3	5	B1	cao	
4	0.75	B1	cao	
5	700	B1	for 700 Accept 7 hundreds	
6 (a)	cross at $\frac{1}{2}$	B1	Cross (or mark) at $\frac{1}{2}$	Accept any mark near to $\frac{1}{2}$ if the intention is clear; do not accept if any additional marks are shown
(b)	cross at 0	B1	Cross (or mark) at 0	Accept any mark near to 0 if the intention is clear; do not accept if any additional marks are shown

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
9	(a) $\frac{3}{7}$	B1	oe	
	(b) 1 : 2.5	M1	for appropriate method shown eg $30 \div 12 (= 2.5)$ or for a method that involves simplification of 12 : 30 approaching 1 : n , eg. 4 : 10 or 6 : 15 or 2 : 5 or for 2.5 : 1 or $2\frac{1}{2} : 1$	
		A1	for 1 : 2.5 or $1 : 2\frac{1}{2}$ or for $n = 2.5$	Accept a fraction equivalent to $2\frac{1}{2}$, eg. $1 : \frac{30}{12}$ 2.5 alone gets M1A0
10	660	P1	for a process to work out the number of large marbles eg $12 \div 4 (=3)$ or the number of small marbles eg $12 - [\text{number of large marbles}]$ or $12 \times (1 - \frac{1}{4}) (=9)$	[number of large marbles] could come from an incorrect method for finding $\frac{1}{4}$ of 12
		P1	(dep) for a process to work out the weight of large marbles eg “3” $\times 70 (=210)$ or to work out the weight of small marbles eg “9” $\times 50 (=450)$	
		P1	for a complete process eg $(12 \div 4) \times 70 + 12 \times (1 - \frac{1}{4}) \times 50$ oe	
		A1	cao	
11	Reflection	M1	for a correct reflection of the shape in any line or a correct reflection of at least 3 vertices	Allow hand-drawn
		A1	cao	

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
12	(a) 11	B1	cao	
	(b) 22	M1	Starts to find input using inverse operations, $41 + 3 (= 44)$ or sight of $+3$ and $\div 2$ or derivation of equation eg $2n - 3 = 41$	+3 and $\div 2$ could be seen in a flow diagram Evidence could be provided by algebraic statement, numerical statements or by diagrams
		A1	cao	
13	(a) 025	B1	for angle in the range 23 to 27	Accept without the initial 0, eg. 25
	(b) 1.25	M1	for measurement of AB in the range 4.8 to 5.2 (cm) or 48 to 52 (mm)	Could be just seen on the diagram
		M1	for “5” \times 25000 (= 125000) or “50” \times 25000 (= 1250000) or “5” \div 100000 (= 0.00005) or “50” \div 1000000 (= 0.00005) or 25000 \div 100000 (= 0.25) or 25000 \div 1000000 (= 0.025)	125000 or 1250000 seen implies M1M1
		A1	for answer in the range 1.2 to 1.3	For the award of this mark, “5” or “50” can be any value in the range 4 to 6 or 40 to 60

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
14	Completed table	M1	for correctly entering two of 11, 2, 5, 10 (= 30 – 20)	4 2 4 10 1 8 11 20 5 10 15 30
		M1	(indep) for using the rule for the top row eg. ([10 males] – [2 male tennis]) ÷ 2 (=4)	Award 2 nd M1 if top row is correct
		A1	for complete correct table	
15	7	P1	for 750×9 (=6750) or $1 + 9$ (=10) or $750 \div 1000$ (= 0.75)	
		P1	(dep) for “6750” + 750 (=7500) or for “10” × 750 (=7500) or “0.75” × “1 + 9” (= 7.5)	
		A1	cao	
			Alternative	
		P1	for $100 + 900$ (= 1000)	
		P1	(dep) for $750 \div 100$ (= 7.5)	
		A1	cao	This can be implied by (1 litre of drink =) 100 (ml) of squash and 900 (ml) of water)

Paper: 1MA1/1F					
Question	Answer	Mark	Mark scheme	Additional guidance	
16	(a)	Explanation	C1	<p>for explanation</p> <p>Acceptable examples the number of points only goes up to 4 because the median is 2 no-one scored 5 points (implies number of points scored was less than 5)</p> <p>Not acceptable examples she was right since 5 is the middle number she has used the wrong column (insufficient) the median is 3</p>	Explanations must relate to median number of points and not median of the frequency values
	(b)	Explanation	C1	<p>for explanation identifying the error in the working</p> <p>Acceptable examples $0 \times 1 = 0$ or 0×1 is not 1 Anything times zero is zero</p> <p>Not acceptable examples the correct answer is 37</p>	

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
17	Conclusion (supported)	P1 P1 P1 P1 C1	<p>for process to find 1/10 of 500 eg. $500 \div 10 (= 50)$ or $1 - 0.1 (= 0.9)$ oe</p> <p>(dep) for process to reduce 500 by 1/10 eg. $500 - "50"$ or $500 \times "0.9"$ (= 450)</p> <p>for process to calculate 20% of [Monday sale price] eg. $"450" \times \frac{20}{100} (= 90)$ oe or for use of $100 - 20 (= 80)$ or $1 - 0.2 (= 0.8)$ in relation to [Monday sale price]</p> <p>(dep on P3) for a fully correct process to find the cost of the TV on Tuesday eg. $"450" - "90"$ (= 360) or $"450" \times "0.8"$ (= 360)</p> <p>for conclusion (Yes) supported by correct figures.</p>	<p>eg Yes, the TV will cost 360 Yes, he will have 40 over left</p>
18	4550 to 4800	M1 M1 A1	<p>for rounding at least two figures to 800, 50, 300 or 290 (which could be evidenced through partial calculation)</p> <p>(dep) for a correct calculation using their rounded values eg. sight of 240000 (= 800×300) or 232000 (= 800×290) or 229100 (= 790×290)</p> <p>or 16 (= $800 \div 50$) or 15.8 = ($790 \div 50$)</p> <p>or 6 (= $300 \div 50$) or 5.8 = ($290 \div 50$)</p> <p>for answer in range 4550 to 4800</p>	<p>Any attempt to find the exact answer gets NO marks even if followed by rounding</p> <p>Various operations possible</p>

Paper: 1MA1/1F				
Question	Answer	Mark	Mark scheme	Additional guidance
19	(a) $x^2 - 4x$	B1	cao	
	(b) $5(3y - 2)$	B1	cao	
	(c) 9	M1	for a correct first stage, eg. expanding brackets, $7 \times f - 7 \times 5 (= 28)$ oe or for division of both sides by 7, eg. $\frac{7(f-5)}{7} = \frac{28}{7}$	
		A1	cao	
20	$3n - 2$	B2	for $3n - 2$ oe	Accept a different variable, eg. $3x - 2$
		(B1)	for $3n + k$ where $k \neq -2$ or is absent unambiguously shown)	$n = 3n - 2$ gets B1 only $n + 3$ gets NO marks
21	Shown	M1	for conversion to improper fractions eg. $\frac{7}{3}$ or $\frac{15}{4}$	Need not be shown with operators
		M1	(dep) for method to multiply fractions, eg. $\frac{7 \times 15}{3 \times 4} (= \frac{105}{12})$ or $\frac{28 \times 45}{12 \times 12} (= \frac{1260}{144})$ oe	
		C1	for complete working showing each stage as far as $\frac{35}{4}$ or $8\frac{9}{12}$	
22	B C D A	B2	cao	
		(B1)	for two or three correct)	
23	A & D	B1	cao	

