

Mark Scheme

Mock Paper – Set 1

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

## **Edexcel and BTEC Qualifications**

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at [www.edexcel.com](http://www.edexcel.com) or [www.btec.co.uk](http://www.btec.co.uk). Alternatively, you can get in touch with us using the details on our contact us page at [www.edexcel.com/contactus](http://www.edexcel.com/contactus).

## **Pearson: helping people progress, everywhere**

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: [www.pearson.com/uk](http://www.pearson.com/uk)

Publications Code

All the material in this publication is copyright

© Pearson Education Ltd 2014

## 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 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

<b>M</b>	method mark awarded for a correct method or partial method
<b>P</b>	process mark awarded for a correct process as part of a problem solving question
<b>A</b>	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)
<b>C</b>	communication mark
<b>B</b>	unconditional accuracy mark (no method needed)
<b>oe</b>	or equivalent
<b>cao</b>	correct answer only
<b>ft</b>	follow through (when appropriate as per mark scheme)
<b>sc</b>	special case
<b>dep</b>	dependent (on a previous mark)
<b>indep</b>	independent
<b>awrt</b>	answer which rounds to
<b>isw</b>	ignore subsequent working

### Mark scheme GCSE (9 – 1) Mathematics

Mock Paper 1MA1: 1F						
Question		Working		Answer	Mark	Notes
1				$-4, -2, 0, 1, 4$	1	B1 for correct list in the correct order
2	(a)			9874	1	B1 cao
2	(b)			4798	1	B1 cao
3				35	1	B1 cao
4				10.80	2	M1 for complete correct method to find 20% A1 for £10.8(0)
5	(a)			× at $(-2, -3)$	1	B1 for cross correctly plotted at $(-2, -3)$
5	(b)			$(-1, 2)$	1	B1 for coordinates $(-1, 2)$
6				37	3	P1 for start the process for combined cost of pens and pencils, e.g. $32p + 8p$ , 64 and 16 or $32n$ and $8n$ where $n > 1$ P1 for complete process, e.g. $15 \div 0.4$ A1 cao

**Mock Paper 1MA1: 1F**

Question		Working	Answer	Mark	Notes
7	(a)		5, 2, 5, 1, 3	2	M1 for at least 3 correct frequencies or all tallies correct if frequencies missing. A1 for all frequencies correct.
	(b)		Suitable chart	3	C1 for 5 correct age labels or a linear scale. C1 for diagram or chart, correctly showing data for at least 4 age groups. C1 for a fully correct diagram or chart with axis correctly scaled and labelled.
8	(a)		165	1	B1 cao
	(b)		Correct conclusion	2	C1 for correct statement on median (can ft) C1 for 41 with correct statement on range NB to get both marks at least one must be interpreted in the context of the question
9			Speedy Taxis with correct working	3	P1 for a process to calculate the cost with 1 firm P1 for a process to calculate the cost with all 3 firms C1 for 45, 44.5(0), 45.5(0) with supporting statement

**Mock Paper 1MA1: 1F**

Question		Working	Answer	Mark	Notes
10	(a)		Correct shape	1	B1 for correct shape in the correct position
	(b)		Correct shape	1	B1 for correct shape in the correct position (ft) from their answer to part (a)
	(c)		$\begin{pmatrix} -2 \\ 3 \end{pmatrix}$	1	C1 ft if A to C is a translation
11	(a)		$3x + 2y$	1	B1 cao
	(b)		$2p + 3q$	2	B1 for $2p$ or $3q$ B1 cao
	(c)		$12m - 18$	1	B1 cao
	(d)		$f = 3$	2	M1 for intention to subtract 6 from both sides of the equation A1 oe



**Mock Paper 1MA1: 1F**

Question		Working	Answer	Mark	Notes
12	(a)		Complete tree 60, <b>39</b> , 21, 27, <b>12, 15, 6</b>	3	C1 for starting to interpret information, e.g. One correct frequency from 21 or 27 C1 for at least one correct additional value C1 for communicating all information correctly
	(b)		$\frac{12}{39}$	2	M1 ft for $\frac{a}{39}$ with $a < 39$ <b>or</b> $\frac{12}{b}$ with $b > 12$ A1 ft from (a) oe
13	(a)		39	3	P1 for rounding one dimension correctly P1 for $(2 \times 2) + (5 \times 7)$ with at least three of 2, 2, 5, 7 used A1 cao
	(b)		Justified answer	1	C1 ft (dep on P1) underestimate with explanation
14			200	2	M1 for $80 \div 2$ <b>or</b> 40 used <b>or</b> scale factor of 2.5 A1 cao

**Mock Paper 1MA1: 1F**

Question		Working	Answer	Mark	Notes
15			48	4	<p>P1 for process to start solving the problem, e.g. <math>5x - 147 = 2x</math> or <math>360 - (116 + 5x - 147 + 2x)</math></p> <p>P1 Complete process to solve the equation or <math>x = 49</math></p> <p>P1 complete process to find the size of the smallest angle, ft for their <math>x</math> dependent on at least P1</p> <p>A1 for 48</p>
16			4.5	2	<p>M1 for <math>4500 \div 1000</math></p> <p>A1 cao</p>
17			$\frac{23}{30}$	3	<p>M1 for conversion to improper fractions, e.g. <math>\left(\frac{13}{5} - \frac{11}{6}\right)</math> or for <math>\left(\frac{18}{30} - \frac{25}{30}\right)</math></p> <p>M1 for a complete correct method</p> <p>A1 for <math>\frac{23}{30}</math> oe</p>

Mock Paper 1MA1: 1F

Question		Working	Answer	Mark	Notes
18	(a) (i)		Fixed charge	1	C1 for correct interpretation e.g. the starting price
	(a) (ii)		The cost per minute	1	C1 for correct interpretation e.g. how much the price increases every minute
	(b)		$y = 1.5x + 0.5$	3	M1 for an attempt to calculate the gradient, with 2 correct values used, e.g. $7.5 \div 5$ , <b>or</b> $y$ -intercept found M1 for gradient of 1.5 in an equation <b>or</b> $1.5x + 0.5$ A1 for the correct equation
19		$\sqrt{5^2 - 4^2} = 3$ $4 \times 8 = 32$ $32 + \frac{1}{2}(3 \times 8)$	44	5	P2 for $\sqrt{5^2 - 4^2}$ or for a height of 3 (P1 for $5^2 - 4^2$ ) P1 for process to find one area P1 for a complete process to find the total area A1 cao

**Mock Paper 1MA1: 1F**

Question		Working	Answer	Mark	Notes
20		$2.5 \times 110 = 275$ miles $275 + 37 = 312$ miles $312 \div 3 = 104$ mph $110 - 104 = 6$ mph	6	4	P1 for process to find distance, e.g. $2.5 \times 110 (= 275)$ P1 for process to find speed for Gill's journey using their distance for Tarek's journey e.g. $(275 + 37) \div 3 (= 104)$ P1 for a complete process to find difference in speeds A1 cao
21	(a)		White = 36 Green = 6 Blue = 18	5	P1 for process to start to solve the problem, e.g. $600 \div 60$ , or $6 \times 1.8$ P1 for a complete process to find the total number of tiles (= 60) P1 for $\frac{3}{5} \times 60 (= 36)$ P1 for $(60 - 36) \div 4$ A1 cao
21	(b)		Correct statement	1	C1 e.g. Fewer tiles may be needed

**Mock Paper 1MA1: 1F**

Question		Working	Answer	Mark	Notes
22			Result shown	4	M1 for $40 \times 0.5 (= 20)$ <b>or</b> $x$ axis scaled correctly M1 for total distance of 80 miles <b>or</b> $y$ axis scaled correctly A1 for 1.25 hours oe or a completed travel graph C1 for correct conclusion with either 16 45 or a correct graph
23			$0.455 \leq y < 0.465$	2	B1 for 0.455 or 0.465 B1 cao
24			$2^3 \times 3^2 \times 5$	3	M1 for a correct start to a factor tree (2 correct branches) M1 for a fully correct tree or correct factors as a list A1 for $2^3 \times 3^2 \times 5$ oe