Pearson
ALWAYS LEARNING

Mark Scheme

Pearson Edexcel GCSE (9-1)
Mathematics – 1MA1
Trial of Specimen Papers (Set 1)

Paper 1 (1MA1/2F): Calculator
Foundation Tier

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 or 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.

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

March 2016
All the material in this publication is copyright
© Pearson Education Ltd 2016

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	
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

Paper 1MA1_2F				
Question		**Working**	**Answer**	**Notes**
1			3 tenths or $\frac{3}{10}$	B1
2			9	B1
3			$\frac{21}{100}$	B1
4	(a)		$6f$	B1
	(b)		$16mn$	B1
	(c)		$2t^2$	B1 cao
5	(a)	$27 \times 18 = 486$	5.14	M1 for $1000 - "27 \times 18"$ A1 cao
	(b)		"less change"	C1 for "less change" oe
6		$458 - 72 = 386$ $386 \div 2 = 193$	265	P1 for start to the process, eg $458 - 72$ (= 386) or $458 \div 2$ (= 229) and $72 \div 2$ (= 36) A1

Paper 1MA1_2F			
Question	**Working**	**Answer**	**Notes**
7		63	M1 for a method to find percentage of a quantity A1
8		$\frac{5}{12}, \frac{1}{2}, \frac{17}{24}, \frac{3}{4}$	M1 for a method to convert each to a form that can be easily used for comparing, eg $\frac{5}{12}$ $= \frac{10}{24}$ or for any 3 in correct order or all 4 in reverse order A1 for correct order
9		62.5	M1 for 12.5 squares or use of 1 sq = 5% M1 for 12.5 ÷ 20 × 100 oe A1 for 62.5
10 (i) (ii)			C1 for correct criticism of use of mean, eg "there is no dress size of 15.3" mode (=14) is most useful since it shows the most popular size C1
11		for No with supporting evidence	P1 for correct process to find price in week 1, eg 65 × 0.8 (= 52) P1 for process to find the price in week 2, eg "52" – 10 (= 42) C1 for No with correct supporting evidence
12		12	P1 for correct use of scale, eg 360 ÷ 30 or 3.6 ÷ 30 A1 cao

Paper 1MA1_2F			
Question	**Working**	**Answer**	**Notes**
13 (a)		12| 3 5 9 13| 0 3 3 5 7 8 14| 7 7 8 9 15| 0 1 Key: 12|3 represents 123	C1 for an unordered diagram with just one error or for an ordered diagram with no more than two errors C1 for a fully correct diagram C1 for a correct key (units may be omitted but must be correct if included)
(b)		$\frac{6}{15}$	M1 for correct interpretation from their diagram (or from original information) of the number over 140 or for $\frac{n}{15}$, $n < 15$ A1 for $\frac{6}{15}$ oe or ft their diagram
14 (a)		(0, –1)	B1
(b)		× marked at (3, 0)	B1
(c)		(–0.5, 0.5)	B1
15 (a)		168	B1
(b)		14.85	M1 for 12.25 or 2.6 A1

Paper 1MA1_2F			
Question	**Working**	**Answer**	**Notes**
16 (a)		1.5	M1 for rearranging, eg $11 - 5 = 4c$ A1 1.5 oe
(b)		–3	M1 for a first step of either dividing both sides by 5, eg $\frac{5(e+7)}{5} = \frac{20}{5}$ or for expanding the bracket, eg $5\times e + 5\times 7 = 20$ A1 cao
(c)		m^6	B1 cao
17		56^o with reasons	M1 for a method leading to the evaluation of another angle, eg angle A =180 – 90 – 22 (= 68) M1 for correctly using the isosceles property in identifying two equal angles, eg (180 – "68") ÷ 2 (= 56) for at least one correct reason given linked to clear working. C1 for all correct reasons included C1 Reasons as appropriate from: sum of angles in a triangle = 180^o base angles of isosceles triangle are equal sum of angles on a straight line = 180^o sum of angles in a quadrilateral = 360^o

Paper 1MA1_2F			
Question	**Working**	**Answer**	**Notes**
18		butter = 1080 flour = 1575 sugar = 450 mincemeat = 1260	M1 for correct use of a correct scale factor, 72 ÷ 16 (= 4.5) on at least one ingredient M1 for complete method applied to all ingredients A1 cao
19 (a) (b)			C1 for a correct evaluation of the method shown by giving at least one correct error made, eg "didn't multiply the 1 by 5" C1 for a correct evaluation of the method shown by giving at least one correct error made, eg "can't split a mixed number" or "should convert to improper (oe) fractions first"
20		$t = \frac{w-11}{3}$	M1 for $3t = w - 11$ or $\frac{w}{3} = \frac{3t}{3} + \frac{11}{3}$ A1 for $t = \frac{w-11}{3}$ oe
21		Jardins of Paris	P1 correct process to convert one price to another currency, eg 1980 ÷ 1.34 P1 for a complete process leading to 3 prices in the same currency C1 for 3 correct and consistent results and a correct comparison made.

Paper 1MA1_2F			
Question	**Working**	**Answer**	**Notes**
22		Mean of 96 or net deviation of 0 so target met	M1 for correct interpretation of the graph, with at least one correct reading or a line drawn through 96 with at least one correct deviation M1 complete method to find mean of six months sales, eg. (110+84+78+94+90+120)÷6 (= 96) or the mean of six deviations, eg. (14–12–16–2–6+24)÷6 (= 0) C1 for a correct answer of 96 or 0 with correct conclusion
23 (a)		$160 < h \leq 170$	B1 for identifying the correct class interval
(b)		1. Points should be plotted at mid-interval values 2. The polygon should not be closed	C1 for a correct error identified C1 for a correct error identified

Paper 1MA1_2F			
Question	**Working**	**Answer**	**Notes**
24 (a)		graph	M1 for method to start to find distance cycled in 36 mins, eg. line drawn of correct gradient or $15 \times \frac{36}{60}$ C1 for correct graph from 9.00 am to 9.36 am C1 for graph drawn from "(9.36, 9)" to (10.45, "9" + 8)
(b)		4.5	M1 for 18×0.25 A1 cao
25		8112	M1 for complete method, eg 7500×1.04^2 A1 cao
26		No with supporting evidence	P1 for the start of a correct process, eg two of x, $2x$ and $2x+7$ oe or a fully correct trial, eg. 5 + 10 + 17 = 32 P1 for setting up an equation in x, eg $x + 2x + 2x + 7 = 57$ or a correct trial totalling 57, eg 10 + 20 + 27 = 57 C1 for a correct deduction from their correct answers, eg Chris has 20 so it is impossible for all to have 20 since 60 marbles would be needed.

Paper 1MA1_2F			
Question	**Working**	**Answer**	**Notes**
27		66.9	P1 for process to find the area of one shape, eg. 19×16 (= 304) or $\pi \times 8^2$ (= 201.06...) P1 for process to find the shaded area, eg. "304" – "201.06" ÷2 (= 203.46...) P1 for a complete process to find required percentage, eg. $\frac{"203.46"}{304} \times 100$ A1 for answer in range 66 to 68
28		43.5	P1 for process to establish a right-angled triangle with two sides of 5 cm and 9 – 7 = 2 cm P1 for correct application of Pythagoras, eg $5^2 + "2"^2$ P1 for a complete process to find perimeter, eg. 9 + 7 + 5 + "5.39" (= 26.385...) P1 for process to find area of square, eg $(26.385... \div 4)^2$ A1 for answer in range 43.5 to 43.6

Pearson Education Limited. Registered company number 872828
with its registered office at 80 Strand, London WC2R 0RL