

Mark Scheme (Results)

March 2011

GCSE

GCSE Mathematics (Modular) - 2381

Paper: 5381H/6A

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NOTES ON MARKING PRINCIPLES

1 Types of mark

M marks: method marks

A marks: accuracy marks

B marks: unconditional accuracy marks (independent of M marks)

2 Abbreviations

cao – correct answer only

isw – ignore subsequent working

oe – or equivalent (and appropriate)

indep - independent

ft – follow through

SC: special case

dep – dependent

3 No working

If no working is shown then correct answers normally score full marks

If no working is shown then incorrect (even though nearly correct) answers score no marks.

4 With working

If there is a wrong 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.

If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.

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, and discuss each of these situations with your Team Leader.

If there is no answer on the answer line then check the working for an obvious answer.

Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.

If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

5 Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, 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.

6 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: e.g. incorrect canceling of a fraction that would otherwise be correct

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.

Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

7 Probability

Probability answers must be given as fractions, percentages or decimals. 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.

8 Linear equations

Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated 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.

9 Parts of questions

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

10 Money notation

Accepted with and without the "p" at the end.

11 Range of answers

Unless otherwise stated, when any 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 includes all numbers within the range (e.g. 4, 4.1).

5381H/6A				
Question	Working	Answer	Mark	Notes
1	0.35×200	70	2	M1 for 0.35×200 A1 cao
2		2 reasons	2	B2 for any two of: No units, e.g. km Overlapping intervals No box for less than 1(km) Poor question with explanation e.g. people may travel different distances on different days (B1 for 1 reason)
3	$[(4 \times 75) + (6 \times 125) + (10 \times 175) + (18 \times 225) + (12 \times 275)] \div 50 =$ $(300 + 750 + 1750 + 4050 + 3300) \div 50 =$ $10150 \div 50$	203	3	M1 for $f \times x$ with x used consistently within intervals or at ends (condone 1 arithmetic error or 1 incorrect midpoint) M1 (dep) for '10150' \div (4+6+10+18+12) A1 cao
4 (a)	$\frac{49 + 83 + 78}{3} = 70$ $\frac{83 + 78 + 85}{3} = 82$	70, 82	2	M1 for $(49+83+78) \div 3$ or $(83+78+85) \div 3$ oe with or without brackets (may be implied by one correct answer) A1 for 70 and 82
4 (b)		increasing	1	B1 for upwards or increasing oe or ft from part (a)

5381H/6A				
Question	Working	Answer	Mark	Notes
5	$\frac{18}{200} \times 25 = 2.25$	2	2	M1 (18÷200) × 25 oe or 2.25 A1 cao SC 2.25 followed by 3 gets both marks
6	$30 \text{ (cm}^2\text{)} = 75$ $1 \text{ (cm}^2\text{)} = 75 \div 30 = 2.5$ $16.5 \times 2.5 = 41.25$ or $6.25 + 20 + 15 = 41.25$ or $150 \times k + 100 \times 2.5k + 50 \times 4k + 75 \times 2k = 75$ $(k = 0.1)$ $25 \times 2.5k + 50 \times 4k + 75 \times 2k = 412.5 \times k$ $412.5 \times 0.1 = 41.25$	41	3	M1 for Total area = 75, such as $30 \text{ (cm}^2\text{)} = 75$ or $1 \text{ (cm}^2\text{)} = 75 \div 30$ or 2.5 oe or 750 small squares = 75 or 1 small square = $75 \div 750$ oe or 0.1 seen M1 (dep) for 16.5×2.5 oe or 412.5×0.1 A1 accept 41, 41.25, 41.2, 41.3 or M2 Use of 2 or 3 of 6.25, 20, 15 in the working or on the diagram explicitly linked to the correct parts of the histogram A1 accept 41, 41.25, 41.2, 41.3 M1 for $150 \times k + 100 \times 2.5k + 50 \times 4k + 75 \times 2k = 75$ oe or correct scaling e.g. 0.1, 0.2, M1 for $25 \times 2.5'k' + 50 \times 4'k' + 75 \times 2'k' = 412.5 \times 'k'$ oe A1 accept 41, 41.25, 41.2, 41.3

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