

# Mark Scheme (Results)

## November 2010

GCSE

GCSE Mathematics (5381H)  
Paper 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                          ft - follow through  
isw - ignore subsequent working                SC: special case  
oe - or equivalent (and appropriate)        dep - dependent  
indep - independent
- 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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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 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 includes all numbers within the range (e.g. 4, 4.1)

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Question	Working	Answer	Mark	Notes
A1	$1 - (0.5 + 0.2 + 0.1)$ $= 1 - 0.8$	0.2	2	M1 for $1 - (0.5 + 0.2 + 0.1)$ oe A1 for 0.2 oe seen in either the table or on the answer line
A2 (a)		$15 < n \leq 25$	1	B1 for selecting correct class interval e.g $15 < n \leq 25$ or $15 - 25$ oe
(b)		$35 < n \leq 45$	1	B1 for selecting correct class interval e.g $35 < n \leq 45$ or $35 - 45$ oe
(c)	$(10 \times 1) + (20 \times 10) + (30 \times 3) + (40 \times 8) + (50 \times 8)$ $= 10 + 200 + 90 + 320 + 400$ $= 1020$ $1020 \div 30 = 34$	34	4	M1 for $fx$ with $x$ consistent within intervals (including end points) condone one error in multiplication M1 (dep) for use of midpoints condone one error M1 (dep on 1 <sup>st</sup> M1) for use of $\Sigma fx \div \Sigma f$ A1 cao <b>NB</b> 1020 seen with an answer of 204 scores 2 marks An answer of 204 without working scores no marks The common response of $30 \div 5 = 6$ also scores 0.
A3 (a)	UQ – LQ = 94 – 78	16	2	M1 for establishing the Upper and/or lower quartile as 94 or 78 or sight of 94 or 78 A1 for 16 cao
(b)	40 – 37	3	2	M1 for establishing the number of people who weighed up to 100 kg or sight of $37 \pm 1$ or 40 – “37” A1 for $3 \pm 1$

Question	Working	Answer	Mark	Notes
A4		heights of 3, 5, 4, 1 with correct widths	3	<p>M1 for at least 2 frequency <math>\div</math> class width or 2 heights correctly drawn with height stated or calculated or heights in the ratio 3 : 5 : 4 : 1 A2 for all bars correct (A1 for 2 bars correct)</p> <p><b>Alternative if no working seen</b> B3 for fully correct histogram with heights in the ratio 3:5:4:1 B2 for nearly correct histogram with 3 bars out of 4 correct with 3 heights out of 4 in the ratio 3:5:4:1 B1 for partially correct histogram with 2 bars out of 4 correct with 2 heights out of 4 in the ration 3:5:4:1</p> <p><b>NB</b> No marks awarded for a bar chart</p>



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