Mark Scheme (Results)

June 2011

GCSE Mathematics (5381H)
Paper 6B (Non-Calculator)

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

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Question		**Working**	**Answer**	**Mark**	**Notes**
1	(a)	(40,60) and (50,75)	points plotted	1	B1 for points plotted within guidelines
	(b)	e.g. as one goes up the other goes up	relationship	1	B1 for e.g. as one goes up the other goes up or (accept positive correlation)
	(c)		line	1	B1 for line drawn between (14, 16) and (14, 38) to (60, 60) and (60, 82) (overlay)
	(d)		62−82	1	B1 for 62−82 or ft their lobf with positive gradient (tolerance ±1 sq)
2	(a)	(18+14+16)÷3 = 48÷3	16	2	M1 for (18+14+16)÷3 or 48÷3 seen A1 for 16 in table
	(b)	(e.g.) Feb & Mar could sum to 42	explanation	1	B1 for e.g. F(eb)+M(ar) = 42 oe or gives values for Feb and Mar totalling 42 (may be seen in table)
3	(a)	markings at 50, 54, 68, 80, 86	box plot	3	B3 for fully correct box plot (B2 for 4 correctly plotted values with box **and** whiskers) (B1 for 3 correctly plotted values with box **or** whiskers)
	(b)		comparison	2	B1 for comparison of a specific value (e.g. comparing max values or medians) B1 for comparison of spread e.g. range of one is greater than range of other or interquartile range of one is greater than other (If seen accept comparison of skewness, e.g. both negatively skewed, as an alternative to spread)

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Question		**Working**	**Answer**	**Mark**	**Notes**
4 (a)		8, 20, 42, 55, 60	8, 20, 42, 55, 60	1	B1 cao
(b)			cf graph	2	B2 ft for fully correct cf graph from their table (±1 sq) provided no part has a negative gradient (accept points joined by curve or line segments and ignore any part of graph outside range of points) (B1 ft for 4 or 5 points from their table plotted at end of intervals (±1 sq) provided no part has a negative gradient OR for 4 or 5 points from their table plotted not at end but consistently within each interval and joined ±1 sq)

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