Edexcel GCSE

Mathematics 2381
Paper 5381H/06

Summer 2008

Mark Scheme (Results)

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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 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.
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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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 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.
If there is no answer on the answer line then check the working for an obvious answer.

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: eg. incorrect cancelling 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 eg 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.

5381H/6A				
Question	Working	Answer	Mark	Notes
A1 (a)	1-(0.2+0.35+0.2)	0.25	2	M1 for 1-(0.2+0.35+0.2) A1 0.25 oe SC: B1 for "1 out of 4" or "1 in 4" SC: B1 if 0.25 seen in the table with incorrect answer on answer line.
(b)	100×0.35	35	2	M1 for 100x0.35 A1 cao
A2		e.g. How many times each week do you shop at this supermarket? 0, 1, 2, 3, 4 or more	2	B1 for an appropriate question with a reference to a time period OR a question with time period implied by responses. B1 for at least 3 non-overlapping boxes (ignore if not exhaustive) Do not accept frequency tables or data collection sheets.
A3 (a)	(25+30+29)÷3	28	2	M1 for (25+30+29)÷3 or 84÷3 (condone missing brackets) A1 cao
(b)			1	B1 for plotting 3 points (6, 26), (7, 27), (8, 26)
(c)			1	B1 for trend line between (2, 24) and (2, 26.5) and between (8, 25) and (8, 27.5)
(d)		trend is upwards	1	B1 for trend is upwards oe
A4	$\dfrac{167}{1385} \times 50$	6 or 7	2	M1 for $\dfrac{167}{1385} \times 50$ or 6.02…… or 6.03 or $\dfrac{1670}{277}$ or $6\dfrac{8}{277}$ A1 for 6 or 7

5381H/6A				
Question	Working	Answer	Mark	Notes
A5	2cm² = 1 battery	20	2	M1 for **use of** frequency density or area Sight of 2×1, 6×0.5, 14×0.5, 8×0.5, 4×1 **OR** 4÷2, 6÷2, 14÷2, 8÷2, 8÷2 **OR** 2, 3, 7, 4, 4 (condone 1 error or omission) A1 cao

5381H/6B				
Question	Working	Answer	Mark	Notes
B1 (a)		height increases with weight	1	B1 for increase in height with weight (accept positive correlation)
(b)		line of best fit drawn (overlay)	1	B1 for line between (40, 145) and (40, 150) and between (50, 156) and (50, 161)
(c)			1	B1 if 152.5 – 157.5 seen or ft from their line dependent on positive gradient.
B2		2 │ 6 9 9 3 │ 1 5 4 │ 0 0 1 8 9 5 │ 1 4 7 7 7 6 │ 0 3 5 Key: 2 │ 6 = 26	3	B3 for fully correct diagram with key (B2 for ordered leaves (with one error or omission) and a key OR unordered leaves and key) (B1 for unordered leaves (with an error or omission) OR key)

5381H/6B				
Question	Working	Answer	Mark	Notes
B3	$\dfrac{3}{8} \times \dfrac{2}{7}$	$\dfrac{6}{56}$	3	M1 for $\dfrac{2}{7}$ seen as non-replacement M1 for $\dfrac{3}{8} \times \dfrac{2}{7}$, $\dfrac{3}{8} \times \dfrac{3}{8}$, $\dfrac{3}{8} \times \dfrac{2}{8}$, $\dfrac{3}{8} \times \dfrac{3}{7}$ oe seen A1 for $\dfrac{6}{56}$ o.e.
B4 (a) (b) (c) (d)		(4) 23, 57, 84, 98, 100 cf curve "median" 15	1 2 1 2	B1 for all correct B1 for 5-6 of their points correctly plotted (± 1 square) at end of interval B1 for points joined by a curve or line segments provided no gradient is negative. (sc B1 if 5-6 points are plotted not at end but consistent within each interval and joined) B1 for 67.5 – 69.5 seen or ft (± 1 square) from their cf graph at 50 – 50.5 down (±1 square) M1 for 60 – 62 and 75 – 77 seen or ft (± 1 square) from their c.f. graph A1 13–17 seen or ft from their c.f. graph.