Edexcel GCSE

Mathematics B 2544

Paper 5542F/08

March 2007

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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appropriate marks, as long as it has not been replaced by alternative work.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.

Remember: if you are having difficulty making a decision on how you should mark a candidate response contact your Team Leader for advice, or send the item to review.

5542F - Section A				
No	**Working**	**Answer**	**Mark**	**Notes**
1 (a)		30 25	2	B1 cao B1 cao
(b)		2 x diag	1	B1 cao
(c)		3.5 x diag	1	B1 cao
2 (a)	$22 - 5$	17	1	B1 cao
(b)	5 10 12 14 18 22	13	2	M1 for correct ordering or for 12 alone as answer, or 12-14 on answer line (without working). A1 for 13
(c)	$(5+10+12+14+18+22) \div 6$ $= 81 \div 6$	13.5	2	M1 for $(5+10+12+14+18+22) \div 6$ A1 cao
3	0.3×150	45 or "45 out of 150"	2	M1 for 0.3×150, 45/150 or 45:150 or digits 45 seen. A1 45 or "45 out of 150"
4 (a)		Overlay of pie chart; angles of $120^o, 72^o, 78^o$	3	B3 for a correct fully labelled pie chart (B2 for 4 sectors labelled, 1-2 drawn inaccurately with labels, OR 4 sectors drawn accurately, no labels.) (B1 for 4 sectors, 1-2 drawn inaccurately, no labels OR for correctly completed table if no other marks awarded) Give bod unless sectors are clearly outside the tramlines given on the overlay. Lines need not be ruled, but must be within tolerance. Note: in using the overlay for "musical" the two outer tramlines may be used to give a maximum of B2.
(b)		$\frac{1}{4}$	1	B1 for $\frac{90}{360}$ or better Accept as a fraction, an equivalent fraction, as a decimal (0.25) or a percentage (25%). Anything else (eg ratio, in words, etc) award 0 marks.

5542F – Section B				
No	**Working**	**Answer**	**Mark**	**Notes**
1 (a)		<table><tr><td>Scor e</td><td>Tally</td><td>Freq.</td></tr><tr><td>1</td><td>Compl ete</td><td>3</td></tr><tr><td>2</td><td>with</td><td>4</td></tr><tr><td>3</td><td>tally</td><td>7</td></tr><tr><td>4</td><td>marks</td><td>5</td></tr><tr><td>5</td><td></td><td>4</td></tr><tr><td>6</td><td></td><td>1</td></tr></table>	3	M1 for an attempt at tallying or for finding one correct frequency value. A1 for at least 3 correct frequencies or all tallies correct. A1 for all frequencies correct. NB: Accept every day, every month as an alternate to once a day, once a month etc. Ignore tallies and mark frequencies if this maximises mark; accept tallies & frequencies reversed.
(b)		3	1	B1 ft
2 (a)		**31 5** 4 **40** **11** 7 **2 20** 42 12 **6** 60	3	B3 for a fully correct table (B2 for 4 or 5 correct entries) (B1 for 2 or 3 correct entries)
(b)		$\dfrac{9}{60}$ oe	2	M1 for 7 + "2" or 20 – "11" or sight of 9 [could be written as a fraction of 60 or some other number, but not as a denominator]. A1 for $\dfrac{9}{60}$ oe Accept as a fraction, an equivalent fraction, as a decimal (0.15) or ft to ≥2dp or a percentage (15% or ft). Anything else (eg ratio, in words, etc) award 0 marks.
3		0 │ 7 8 9 9 1 │ 0 0 0 2 5 5 6 7 8 9 2 │ 1 1 3 8 3 │ 0 2 1│7 = 17 years	3	B3 for fully correct diagram with correct key [B2 for ordered leaves (condone one error), key or no key OR unordered leaves (condone one error) + correct key] [B1 for unordered leaves (condone one omission), no key OR for a correct key (ignore diagram) OR for ordered leaves (no more than 2 errors with a correct key] NB: "one error" defined as either one number missing, one extra number, or one number misplaced (which may not be two errors); accept commas; key as shown opposite (1 line 7 = 17), but candidate could use different numbers, or give several alternatives; condone missing units.

No		Working	Answer	Mark	Notes
4	(a)		Responses too vague, no negative response, not exhaustive, no time period, not enough boxes	1	B1 for acceptable reason
	(b)		Eg. How many times per month do you visit the town centre? <2 times 2 to 5 times > 5 times	2	B1 for a question that includes a time period (month, week) OR a question with time period implied by responses B1 for at least 3 non-overlapping response boxes (ignore if not exhaustive) Do not award any marks for questions that do not have quantitative response boxes. Do not accept frequency tables, or data collection sheets. NB: a question with the time period included with the response boxes could gain B2 eg once month, once a week, once a day, etc., since this is also quantitative.