Edexcel GCSE

Mathematics B 1388

Paper 5509

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

Section A					
No		**Working**	**Answer**	**Mark**	**Notes**
1			(5,T) (4,T) (3,T) (2,T) (1,T) (5,H) (4,H) (3,H) (2,H) (1,H)	2	B2 for a complete and accurate sample space (B1 for at least 4 extra correct outcomes)
2		$2 \times -4 - 3$ $= -8 - 3$	-11	2	M1 for $2 \times -4 - 3$ A1 cao
3			$5x + 3y$	2	B2 cao (B1 for $5x$ or $3y$ seen)
4	(i)	$180 - (90 + 32)$	58	3	M1 for $180 - (90 + 32)$ or 58 seen A1 cao
	(ii)		Corresponding angles and angles in a triangle		B1 for a reason containing corresponding angles
5			How much time do you spend on homework each night/week? < 1hr 1–2hrs >2hrs	2	B1 for a question involving a time period B1 for at least 3 non-overlapping response boxes (need not be exhaustive)
6		$5\frac{3}{8}+\frac{2}{8}$	$5\frac{5}{8}$ oe	2	M1 for attempting to write two fractions with a common denominator (one fraction must be correct) A1 for $5\frac{5}{8}$ oe
7	(a)		$5(p - 4)$	1	B1 for $5(p - 4)$, accept $5 \times (p - 4)$
	(b)	$3x - 6 = x + 1$ $2x = 7$	3.5 oe	3	M1 for $3x - 6$ M1 (indep) for isolating x terms and number terms from a 4 term equation. A1 for 3.5 oe (accept $\frac{7}{2}$)

Section A				
No	**Working**	**Answer**	**Mark**	**Notes**
8	$70 = 2 \times 5 \times 7$ $105 = 3 \times 5 \times 7$	35	2	M1 for either $70 = 2 \times 5 \times 7$ or $105 = 3 \times 5 \times 7$ or listing 3 or more factors of both 70 and 105 (condone 1 error in each list) A1 cao [SC: B1 for an answer of 5 or 7 if M0 scored]

Section B				
No	**Working**	**Answer**	**Mark**	**Notes**
1	0.3 0.25 0.28 0.375 0.25 0.28 0.3 0.375	$\frac{1}{4}$ 0.28 30% $\frac{3}{8}$	2	B2 for correct order (B1 for 3 in correct order or correct reverse order)
2	1 – (0.1 + 0.35 + 0.4)	0.15	2	M1 for 1 – "(0.1 + 0.35 + 0.4)" A1 for 0.15 oe (i.e. 15% , $\frac{15}{100}$) [SC: B1 for 0.6 with working if M0 scored]
3		See overlay	2	B2 for accurate drawing (B1 for correct angle (±2º) or correct length (±2mm) of side)
4	$\frac{11}{55} \times 100$	20	3	M1 for 66 – 55 or 11 seen M1 for $\frac{"11"}{55} \times 100$ A1 cao
5	$3x + x + 20 = 180$ $4x = 160$	40	3	M1 for $3x + x + 20$ or 180 -120 or 160 seen M1 for $3x + x = 180 - 20$ A1 cao
6 (a)		32, 38	1	B1 cao
(b)		$6n - 4$ oe	2	B2 for $6n - 4$ oe (B1 for $6n + k$, where $k \neq -4$)
7	Ext < = 2 × 20 360 ÷ "40"	9	4	B1 for angle $CDB = 20º$ (could be just shown on the diagram) M1 for Ext < = 2 × 20 or Int < = 180 – 2 × 20 M1 for 360 ÷ "40" A1 cao