edexcel

GCSE

Edexcel GCSE

Mathematics B 1388

Paper 5534/15

Summer 2005

advancing learning, changing lives

Mark Scheme (Results)

Edexcel GCSE
Mathematics A 1388
Paper 5534/15

accac QCA

CEA Rewarding Learning

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

Paper 5534/15				
No	**Working**	**Answer**	**Mark**	**Notes**
1 (a)	Plain llll lll 8 Chicken lll 3 Bovril llll 5 S & Vin llll 4		3	M1 for attempt to tally A1 for 1 frequency correct or all tallies correct A1 for all frequencies correct (accept /20)
(b)		4	1	B1 ft
(c)		Plain or 8	1	B1 ft
2	See diagram	Correct lines	2	B2 cao for both lines correct (B1 for one line correct)
3 (i)		Cylinder	2	B1 ignore spelling
(ii)		Cuboid		B1 ignore spelling
4 (a)		580	1	B1 for 580 (± 2) could be written on line
(b)		Arrow at 6.7	1	B1 allow ± half graduation
5 (a)(i)		143^0	2	B1 for 143 ($\pm 2^0$)
(ii)		Obtuse		B1 for obtuse (ignore spelling)
	See diagram		1	
(b)		Accurate drawing		B1 for accurate drawing ± 2mm

Paper 5534/15					
No		**Working**	**Answer**	**Mark**	**Notes**
6	(a)		5	1	B1
				2	
	(b)	4+5+5+5+4+3+2+1+4+5 = 38 mean = 38 ÷ 10 = 3.8	3.8		M1 for attempt to add and ÷ 10 or 3.7 or 3.9 seen A1 for 3.8
7	(a)		3d	1	B1 accept d3 or $3\times d$ or $d\times 3$
	(b)		7c	1	B1 accept c7 or $7\times c$ or $c\times 7$
	(c)		-10	1	B1 cao
	(d)	$5y = 15 - 3$ $y = \frac{15-3}{5}$	2.4 oe	2	M1 for $15-3$ or 12 seen A1 for 2.4 oe (eg $\frac{12}{5}$)

Paper 5534/15				
No	**Working**	**Answer**	**Mark**	**Notes**
8 (a)	2658 – 2430 = 228 "228" × 32	72.96	4	M1 2658 – 2430 A1 228 M1 "228" × 32 or "228" × 0.32 or digits 7296 seen A1 cao **Or** M1 for 2430 × 32 (or digits 77760 seen) or 2658 × 32 (or digits 85056 seen) A1 if 1 correct M1 for "85056" – "77760" or 7296 seen A1 cao
(b)(i)		80	2	B1 for 80 (± 1)
(ii)		125		B1 for 125 (± 3)

Paper 5534/15					
No		Working	Answer	Mark	Notes
9	(a)		Correct plane	2	B2 for a correct plane defined by showing at least 2 lines. (B1 for a line of symmetry on one face)
	(b)		Correct net	2	B2 cao (B1 for 2 equilateral triangles joined appropriately to at least one rectangle or for 1 equilateral triangle joined appropriately to one of the three rectangles)
	(c)		Correct drawing	2	B1 for two extra sides of length 6 cm (± 2mm) B1 for construction arcs 6cm from each of the ends of the given line
10	(a)		$3x$	1	B1 cao accept $3 \times x$, $x3$, $x \times 3$
	(b)		$x - 9$	1	B1 for $x - 9$ cao
11	(a)	14.44 – 8.660254038	5.77974(….)	2	M1 for 14.44 seen or 8.66(……) seen or 5.7 or 5.8 or better, rounded or truncated A1 cao
	(b)		6	1	B1 ft

Paper 5534/15					
No		Working	Answer	Mark	Notes
12	(a)	$60 \div 2.8 = 21.42857$	21	2	M1 for $60 \div 2.8$ oe (or 21.4 … or 22 seen) A1 cao
	(b)	$\frac{20}{100} \times 40 = 8$ $40 - 8$	32	3	M1 for $20 \div 100 \times 40$ oe A1 cao for 8 cao A1 ft (dep on M1) for 40 – "8" evaluated correctly
13	(a)		15	1	B1 cao for $15(\pm 1)$
	(b)		15	1	B1 cao for $15(\pm 0.4)$
	(c)			2	B1 horiz. line from (2,20) to (3,20) B1 line from (3,20) to (5,0) or horiz. translation of it SC: B1 for any journey ending at (5,0)
14	(a)	$x + 4 + x + x + 4 + x$	$4x + 8$	2	M1 for attempting to add $x + 4, x, x + 4, x$ may be implied by $4x+a$, $a>0$ A1 for $4x + 8$ or $4(x + 2)$
	(b)	$4x + 8 = 54$ $4x = 46$ $x = 11.5$ Length = "11.5" + 4	15.5	3	M1 for "$4x + 8$" = 54 A1 cao for 11.5 seen B1 ft for "11.5" + 4

Paper 5534/15				
No	**Working**	**Answer**	**Mark**	**Notes**
15 (a)		3:1	1	B1 cao
(b)	$\pi \times 2.45$	7.7	2	M1 for $\pi \times 2.45$ (accept π as 3.1 or better) A1 for 7.59 to 7.70
16	7×10000	70 000	2	M1 for $7 \times 10\,000$ or $7 \times 100 \times 100$ A1 cao
17	$7.60 \times \frac{17.5}{100} = 1.33$ $7.60 + 1.33 = 8.93$ $1650 \times$ "8.93"	£14734.50	4	M1 for $7.60 \times \frac{17.5}{100}$ or 1.33 seen or 7.60×1.175 (oe) (Award M1 for 10%, 5% and 2½% correctly calculated) A1 for 8.93 or 893 M1 for $1650 \times$ "8.93" or digits 147345 seen A1 cao Accept 14734.5 OR M1 for 1650×7.6 or 12540 seen M1 for "12540" $\times \frac{17.5}{100}$ or 2194.5 seen or "12540" $\times 1.175$ (oe) (Award M1 for 10%, 5%, and 2½% correctly calculated) M1 for "12540" + "2194.5" (dep on both previous M marks) or digits 147345 seen A1 cao accept 14734.5