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Edexcel GCSE

Mathematics B 1388

Paper 5534/ 14

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Mark Scheme

Edexcel GCSE

Mathematics B 1388

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

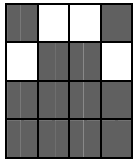
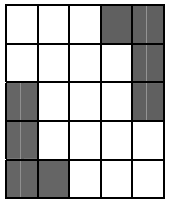
Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded.

9 Parts of questions

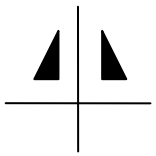
Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

Paper 5534_14					
No		**Working**	**Answer**	**Mark**	**Notes**
1			27, 35, 42, 67, 118	1	
2	(a)		Diameter drawn	1	B1 for a diameter
	(b)		Right angle marked	1	B1 for *R* marked correctly
	(c)		Rectangle drawn	1	B1 for a rectangle
3	(a)		40	1	B1 cao
	(b)		50	1	B1 cao
	(c)		3 full loaves 4 full loaves + 1 half loaf	2	B1 for 3 full loaves B1 for 4 full loaves + 1 half loaf
4	(a)		7252	1	B1 cao
	(b)		Three thousand and eighty six	1	B1 Accept three thousand and eighty six (condone 0 hundred)
	(c)		4600	1	B1 Accept words e.g. 46 hundred
	(d)		200	1	B1 for 200 or 2 hundred or 100 or hundred
5		5 × 100 or 5.1×100	500 or 510	2	B2 for 500 or 490 or 510 (B1 for either 5 or 5.0 or 100 seen)

Paper 5534_14					
No		**Working**	**Answer**	**Mark**	**Notes**
6	(a)		Carbon black	1	B1 accept 'black carbon' or 26%
	(b)		0.1(0)	1	B1 cao
	(c)		0.04	1	B1 cao
	(d)	$\frac{26}{100}$	$\frac{13}{50}$	2	M1 for $\frac{26}{100}$ A1 cao
7	(a)		3	1	B1 cao ± 0.2
	(b)		–5	1	B1 cao ± 0.2
8	(a)	Height of bars 12, 8, 6	Bars drawn	2	B2 for 3 bars correctly drawn (B1 for 2 bars correct)
	(b)		July and August	1	B1 oe
	(c)	24 – 4	20	1	B1 oe
	(d)	The temperatures are rising	Temp's rising oe	1	B1 for reason
9	(a) (i)		$(-4, 3)$	2	B1 cao
	(ii)		$(2, -1)$		B1 cao
	(b) (i)	*D* marked at $(-4, -1)$	Point marked on grid	2	B1 for point marked at $(-4, -1)$ cao
	(ii)		$(-4, -1)$		B1 ft

Paper 5534_14				
No	**Working**	**Answer**	**Mark**	**Notes**
10 (a)			1	B1 cao
(b)			1	B1 cao
11	$6 + 6 + 3$ or $2\frac{1}{2} \times 6$ or 2.5×6	15	3	M1 for realizing 6 glasses in one bottle M1 for realizing 3 glasses in ½ a bottle A1 cao (M2 for attempt to find $2\frac{1}{2} \times 6$ oe)

Paper 5534_14				
No	**Working**	**Answer**	**Mark**	**Notes**
12	15 and 16 parts shaded Alternative 1 $\frac{3}{4} = 0.75$ or 75%, $\frac{4}{5} = 0.8$ or 80% Alternative 2 $\frac{3}{4} = \frac{15}{20}$, $\frac{4}{5} = \frac{16}{20}$	$\frac{4}{5}$ + reason	3	M1 for shading 15 parts for $\frac{3}{4}$ M1 for shading 16 parts for $\frac{4}{5}$ A1 (dep on M2) for selection of $\frac{4}{5}$ with correct shading **Alternative 1** M1 for $\frac{3}{4} = 0.75$ or 75% M1 for $\frac{4}{5} = 0.8$ or 80% A1 (dep on M2) for selection of 0.8 or 80% or $\frac{4}{5}$ with correct decimals or percentages **Alternative 2** M1 for $\frac{3}{4} = \frac{15}{20}$ oe M1 for $\frac{4}{5} = \frac{16}{20}$ oe A1 (dep on M2) for selection of $\frac{4}{5}$ or $\frac{16}{20}$ with equivalent fractions

Paper 5534_14				
No	**Working**	**Answer**	**Mark**	**Notes**
13 (a)		–5 (–3) (–1) 1 3 5	2	B2 cao (B1 for any 2 or 3 correct)
(b)	Points plotted	Line	2	B2 for line from (–1, –5) to (4, 5) (B1 ft for plotting at least 5 "points")
14		6 tessellating shapes	2	B2 For fully correct with 5 or more additional shapes, no gaps. (B1 for 4 or more shapes tessellating with at least one shape inverted, with or without the given shape, ignore extras)
15 (a)		$4a$	1	B1 (Accept $4 \times a$, $a \times 4$, $a4$)
(b)		$12b$	1	B1 (Accept $12 \times b$, $b \times 12$, $b12$)
(c)		$x(x-6)$	2	B2 cao (B1 for $x(ax+b)$ where a, b are numbers not equal to 0 or $x-6$ seen on its own, or as part of an expression)
16 (a)		40	1	B1 cao
(b)		45	1	B1 for 42 to 48, accept ¾ hour
(c)	40×2 or $\frac{40}{30}\times 60$ or $40\div\frac{1}{2}$	80	2	M1 for 40×2 or $\frac{40}{30}$ or $40\div\frac{1}{2}$ A1 cao
17		Reflection in y-axis	1	B1 for triangle with vertices (-1,1) (-3,1) and (-1,4)

Paper 5534_14				
No	**Working**	**Answer**	**Mark**	**Notes**
18	$5x + 10 = 19$ $5x = 19 - 10$ $5x = 9$	$^9/_5$ oe	3	B1 for $5x + 10$ or 19/5 M1 for $5x = 19 -$ "10" or $19/5 - 2$ or $19 - 2 \div 5$ or $5x = 19 - 2$ with $x = \frac{"17"}{5}$ A1 for $\frac{9}{5}$ or $1\frac{4}{5}$ or 1.8
19	$36 \div 9$ (=4) "4"×6 Alternative $\frac{2}{3}$ of 36	24	2	M1 for $36 \div 9$ or 4 seen (even on the answer line) A1 cao Alternative M1 for $\frac{2}{3}$ of 36 or $\frac{2}{3} \times 36$ oe A1 cao
20 (a)(i) (ii) (b)	 $(360 - 2 \times 37) \div 2$	37 alternate angles 143	2 2	B1 cao B1 cao (accept Z angles) M1 for $(360 - 2 \times 37) \div 2$ **or** $180 - 37$ A1 cao