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Edexcel GCSE

Mathematics B 1388

Paper 5534/15

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If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.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

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No		**Working**	**Answer**	**Mark**	**Notes**
1	(a)	Draw diagram.	Diagram	1	B1 cao
	(b)		13,16	1	B1 cao
	(c)		31	1	B1 cao
2	(a)		4, 7 drawn	2	B2 for car height 4 and bus height 7, (B1 for one correct)
	(b)		6	1	B1 cao
	(c)		Walk	1	B1
	(d)		27	1	B1 cao
3	(a)		40	1	B1 for 40 – 41 inclusive
	(b)		12	1	B1 for 11.5 to 12.5 inclusive
4	(a)(i)		09 06	2	B1 (accept 906 oe)
	(ii)		39		B1 cao
	(b)		06 55	1	B1 (accept 655 oe)
	(c)		2h 6min	1	B1 cao
	(d)		15	2	M1 for 0906 – 0645 – "(c)" or 0906 – 0645 – 2hr 6min or 2hr 21min – "(c)" or 2hr 21min – 2 hr 6 min or 141 – 126 or 20 – 5 A1 cao SC B1 for 55 or 75 or 93 seen

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No	**Working**	**Answer**	**Mark**	**Notes**
5 (i)		8, 10, 12, 20 or 30	3	B1 for at least one of 8, 10, 12, 20, 30 (no extras)
(ii)		8, 12 or 20		B1 for at least one of 8,12, 20 (no extras)
(iii)		3 or 5		B1 for 3 or 5 or both (no extras)
6 (a)		2	1	B1 for 2 or −2
(b)		14	1	B1 for 14 or −14
7	2 × 8.50 = 17.00 3 × 4.50 = 13.50 Total = 30.50 50.00 – 30.50	19.5(0)(*p*)	3	M1 for adding 5 correct values or 2 × 8.50 + 3 × 4.50 (ignore units) or 30.5(0) or 3050 seen M1 dep for 50 − "30.50" (ignore units) (OR M1for adding at least 1 adult ticket and at least 1 child ticket **and** subtracting from 50) A1 cao SC: B1 for 24 or 37 or 2400 or 3700 seen
8		Hexagon	1	B1
9		Correct plane	2	B2 for correct plane of symmetry (B1 for line)

Paper 5534_15				
No	**Working**	**Answer**	**Mark**	**Notes**
10	**55** 61 74 **190** 33 **17** **10** 60 **88** **78** 84 250	**55** 61 74 **190** 33 **17** **10** 60 **88** **78** 84 250	3	B3 for all 6 entries correct (B2 for 4 or 5 entries correct) (B1 for 2 or 3 entries correct)
11		5.5 cm and 7 cm lines	2	B2 for correct triangle within overlay (B1 for one correct line $\pm 2mm$) SC B1 for lines of 11cm and 14cm $\pm 2mm$
12 (a)	4.7 ÷ 5.9 = 0.796610169	0.7966…	2	B2 for 0.7966 or better (B1 for 0.8, 0.80, 0.79, 0.797, 0.796 or digits 59 seen)
(b)		0.8	1	B1 ft from (a)
13	900 × 1.70	1530	2	M1 for 900 × 1.7(0) or 153 or 15300 or 153000 seen A1 cao
14	420 ÷ 6	70	2	M1 for 420 ÷ 6 or 7000 or 350 seen A1 cao

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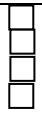
No	**Working**	**Answer**	**Mark**	**Notes**
15 (a)	3 × 35 + 50	155	2	M1 for 3 × 35 + 50 or digits 155 seen A1 ca
(b)	260 – 50 = 210 210 ÷ 35	6	3	M1 for 260 – 50 (or 210 seen) M1 for "260 − 50" ÷ 35 or 210 ÷ 35 A1 cao
(c)		P = 35*h* + 50	3	B3 for P = 35*h* + 50 or P = 35 × *h* + 50 oe (B2 for correct RHS or P = *h* + 50 × 35 oe or *P* = 35*h* + *k* is numerical) (B1 for P = some other linear expression in *h* **OR** *h* + 50 × 35 **OR** 35h seen) NB: P = *h* scores no marks. Ignore £ signs SC $h = \frac{P-50}{35}$ scores B2
16 (a)		Elevation	2	B2 for 4 vertical squares (Accept 4 by 1 rectangle) (B1 for 4 vertical squares with one square added or one parallelogram added at the top, or 3 vertical squares, or 4 horizontal squares)
(b)		Plan	2	B2 for 2 adjacent squares, vertical or horizontal (Accept 2 by 1 rectangle) (B1 for 3 adjacent horizontal or vertical squares or a rectangle with sides in the ratio 2 : 1)

Paper 5534_15				
No	**Working**	**Answer**	**Mark**	**Notes**
17 (i)		5	3	B1 cao
(ii)		9		B1 cao
(iii)		6		B1 cao
18	$45.00 + 45.00 \times \frac{15}{100}$ $= 45.00 + 6.75$	51.75	3	M2 for $45.00 + 45.00 \times \frac{15}{100}$ oe or 45.00×1.15 oe or $45.00 + 6.75$ or a complete method or 5175 seen (M1 for $45.00 \times \frac{15}{100}$ or 6.75 or 675 seen or correct method for calculating 15% of 45) A1 cao SC: Award B2 for an answer of 38.25

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No	**Working**	**Answer**	**Mark**	**Notes**
19	5 miles = 8 km 70 mph ÷ 5 × 8 = 112 km/h Slower than 120 km/h OR 120 km/h ÷ 8 × 5 = 75 mph Faster than 70 mph	70mph with explanation	3	M1 for 5 miles = 8 km or 70mph is about 100 k/h or 1 km = 0.6(25) miles or 1 mile = 1.6 km M1 for 70 ÷ 5 × 8 (= 112) or 120 ÷ 8 × 5 (= 75) oe A1 (dep on at least M1) for GB **OR** 70mph Refer to both answer line and working NB: 70 or GB without working scores 0 marks.
20	π × 0.65	2.04 – 2.05	2	M1 for π × 0.65 **OR** 3.14 × 0.65 **OR** 3.142 × 0.65 oe A1 for 2.04 – 2.05 SC Award B1 for 2.0 seen (not 2)