

UNIT 1: NON-CALCULATOR, FOUNDATION TIER

GENERAL INSTRUCTIONS for MARKING GCSE Mathematics

1. The mark scheme should be applied precisely and no departure made from it. Marks should be awarded directly as indicated and no further subdivision made.

2. Marking Abbreviations

The following may be used in marking schemes or in the marking of scripts to indicate reasons for the marks awarded.

cao = correct answer only

MR = misread

PA = premature approximation

bod = benefit of doubt

oe = or equivalent

si = seen or implied

ISW = ignore subsequent working

F.T. = follow through (✓ indicates correct working following an error and ✗✗ indicates a further error has been made)

Anything given in brackets in the marking scheme is expected but, not required, to gain credit.

3. Premature Approximation

A candidate who approximates prematurely and then proceeds correctly to a final answer loses 1 mark as directed by the Principal Examiner.

4. Misreads

When the data of a question is misread in such a way as not to alter the aim or difficulty of a question, follow through the working and allot marks for the candidates' answers as on the scheme using the new data.

This is only applicable if a wrong value, is used consistently throughout a solution; if the correct value appears anywhere, the solution is not classed as MR (but may, of course, still earn other marks).

5. Marking codes

- 'M' marks are awarded for any correct method applied to appropriate working, even though a numerical error may be involved. Once earned they cannot be lost.
- 'm' marks are dependant method marks. They are only given if the relevant previous 'M' mark has been earned.
- 'A' marks are given for a numerically correct stage, for a correct result or for an answer lying within a specified range. They are only given if the relevant M/m mark has been earned either explicitly or by inference from the correct answer.
- 'B' marks are independent of method and are usually awarded for an accurate result or statement.
- 'S' marks are awarded for strategy
- 'E' marks are awarded for explanation
- 'U' marks are awarded for units
- 'P' marks are awarded for plotting points
- 'C' marks are awarded for drawing curves

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GCSE Mathematics Unit 1: Foundation Tier	Mark	Comments
1. (Cost of tickets \Rightarrow) $2 \times (\pounds)15 + (\pounds)13 + (\pounds)5$ $= (\pounds)48$ (Change \Rightarrow) $(\pounds)60 - (\pounds)48$ $= (\pounds)12$ Organisation and communication Accuracy of writing	M1 A1 M1 A1 OC1 W1 6	F.T. £60 – ‘their £48’
2. (a) Hexagon (b) Isosceles triangle (c) TRUE FALSE TRUE TRUE FALSE	B1 B1 B2 4	B1 for 4 correct
3. (a) $1/3$ (b) 11 (c) $3\frac{3}{4}$	B1 B1 B1 3	
4. (a) (i) impossible. (ii) unlikely. (b) 7 Any number greater than 100.	B1 B1 B1 B1 4	
5. (a) A (7, 2) B (-3, -2) C (1, -6) (b) Mid-point (4, -2)	B3 B1 4	B1 for each
6. (a) 9 (b) (i) $35 - 10$ (ii) 13×50 or 50×13	B3 B1 B1 5	B2 for meeting any three clues e.g. 1, 3, 15, 81, (or 3, 15, 81, (from not including 1 and 20)) B1 for meeting any two clues e.g. 1, 4, 5, 6, 7, 11, 12,
7. (Area \Rightarrow) 8×3 $= 24$ m^2	M1 A1 U1 3	Independent of other marks
8. $a = 3$ $b = 5$ $c = -2$	B1 B1 B1 3	C.A.O. F.T. $(13 - a) / 2$ F.T. $6 - a - b$

GCSE Mathematics Unit 1: Foundation Tier						Mark	Comments										
9. (a)	200					B2	B1 for sight of 25 or 8 M1 for $0.875 - 0.25$ A1 for 0.625										
(b)	0.18					B1											
(c)	3.45					B1											
(d)	Correctly using common denominator.					M1											
	5/8 or equivalent.					A1 6											
10. (a)	2 and -7					B2	B1 for 2 Must be in an expression for B2 B1 for $2x$ or $-3y$										
(b)	$2x - 3y$					B2											
						4											
11(a)	120 cm^2					B1											
(b)	20°					B1											
(c)	30 m^3					B1 3											
12.	<table border="1"><tr><td>(+)6</td><td>(+)3</td><td>0</td><td>(-3)</td><td>(-6)</td></tr><tr><td>-6</td><td>-3</td><td>0</td><td>(+3)</td><td>(+6)</td></tr></table> (Probability > 0 =) $4/10$ or equivalent. $4/10 \times 70$ =28 (people)					(+)6	(+)3	0	(-3)	(-6)	-6	-3	0	(+3)	(+6)	B2	For 6 correct entries otherwise, B1 for the two zeros OR B1 for the (+)6 AND (+)3 F.T. their table B1 for a numerator of 4 OR a denominator of 10 in a fraction less than 1 F.T. 'their $4/10$ '
(+)6	(+)3	0	(-3)	(-6)													
-6	-3	0	(+3)	(+6)													
						B2											
						M1											
						A1											
						6											
13. (a)	$7x - 2x = 11 + 4$ $5x = 15$ $x = 3$					B1	F.T. until 2 nd error F.T. until 2 nd error										
(b)	$6x + 21 = 9$ OR $2x + 7 = 3$					B1											
	$6x = -12$ OR $2x = -4$					B1											
	$x = -2$					B1											
						6											

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14. (a) False AND a counter example given.	E1	Accept any equivalent intention to refer to both facts E1 for reference to one of the two facts
(b) True AND a statement that refers to both 'one of the numbers will be even' and 'any integer multiplied an even number will result in another even number.'	E2	
	3	
15. Appropriate sight of $90^{(\circ)}$ Appropriate sight of $45^{(\circ)}$ or $90/2$ $x = 135^{(\circ)}$	B1 B1 B1 3	Implies 1 st B1 F.T. only from a clearly identifiable angle <i>LN</i>
16. 3, 6, 7, 8 OR 4, 5, 6, 9	B2 2	B1 for sum of four selected numbers = 24 OR range of four selected numbers = 5