UNIT 2: CALCULATOR-ALLOWED, 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 ($\checkmark$ indicates correct working following an error and $\checkmark\!\!\!\!\times$ 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.
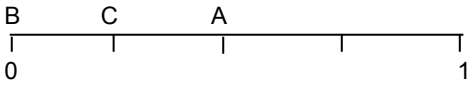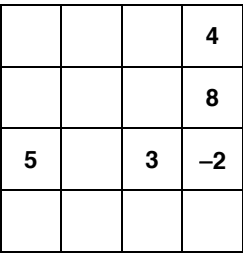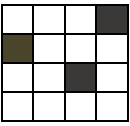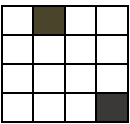
4. Misreads
When the <u>data</u> of a question is misread in such a way as not to alter the aim or difficulty of a question, follow through the working and allot marks for the candidates' answers as on the scheme using the new data.
This is only applicable if a wrong value, is used consistently throughout 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

UNIT 2: CALCULATOR-ALLOWED, FOUNDATION TIER

GCSE Mathematics Unit 2: Foundation Tier	Marks	Comments
1.　(Profit =)　84 × (£)5 − (£)120 　　　　　　　　　　　= (£)300	M1 A1 2	For correct substitution.
2.　(a)　　Diameter 　(b)　　Tangent 　(c)　　Trapezium	B1 B1 B1 3	
3. (a) 　　　B　　　C　　　　A 　　├──┬──┬──┬──┬──┤ 　　0　　　　　　　　　　1 　(b)　　　　　　　$\dfrac{7}{8}$	B3 B1 4	Accept names e.g. Wales (A), France (B), England (C) B1 for each. Accept C roughly between 1/8 and 3/8.
4. <table><tr><td></td><td></td><td>**4**</td></tr><tr><td></td><td></td><td>**8**</td></tr><tr><td>**5**</td><td>**3**</td><td>**−2**</td></tr><tr><td></td><td></td><td></td></tr></table>	B3 3	For all five correct entries. B2 for three or four correct entries. B1 for two correct entries
5. (a) 　(i) 　(ii) 　(b)　　　　　　　2	B1 B1 B1 3	Only these three squares to be shaded. Only these two squares to be shaded. SC1 if reflections in <u>both</u> cases are correct but extra squares have been shaded.

GCSE Mathematics Unit 2: Foundation Tier	Marks	Comments

6.(a) Correct three-digit number shown.
           (i.e. sum of digits = 9)
           Correct answer for their three-digit number ÷ 9
	B1
	
	B1
		The numbers should have the digits 1, 3, 5 or 2, 3, 4.
		
		F.T. their three-digit number correct to the nearest whole number or 1 or more decimal places.
		e.g. sight of 412 ÷ 9 = 45·7 or 45·8 or 46 gains B0B1.
		SC1 for a correct evaluation if a three-digit multiple of 9 is used with a repeated digit.
		e.g. 441 ÷ 9 = 49 gains SC1.

(b) Dylan is 18 Lois is 6	B2 4	B1 for 'their Dylan' = 'their Lois' + 12. B1 for 'their Dylan' = 3 × 'their Lois'.

7.(a) (i) $(x=)$ 3
      (ii) $(x=)$ 4
 	
  (b)   6 − 4 + 5
                    = 7
 	
  (c) $(£)8n$
	B1
	B1
	
	M1
	A1
	
	B1
	5
		
		Sight of 6, 4 and 5.
		C.A.O.

8.(a) $(a =)$ 180 − 90 − 38   or equivalent.
                 $= 52^{(\circ)}$
 	
  (b) $(b =)$ 360 − 101 − 154   or equivalent.
                 $= 105^{(\circ)}$
	M1
	A1
	
	M1
	A1
	4	

9. $\dfrac{10}{0·68}$ or equivalent.
 	
                        14 (key rings)
 	
    (Change =)   (£)10 − 14 × (£)0·68 or equivalent
                    = £0.48 or 48p
Organisation and communication
Accuracy of writing
	M1
	
	A1
	
	M1
	A1
	OC1
	W1
	6
		Allow M1 for repeated addition if aiming for £10
		
		C.A.O. 14·7...... implies M1A0
		
		F.T. 'their whole number of key-rings'
		Units must be given. Allow £0.48p

10.   360 − (46 + 117 + 34)
                    $= 163^{(\circ)}$
                          $(x =)$ $17^{(\circ)}$
	M1
	A1
	B1
	3
		
		F.T. 180 − 'their 163'.

11.(a)   −9
 	
   (b)   12
 	
   (c) $3(n − 7)$
	B1
	
	B1
	
	B1
	3	

12.   (Original mean =) 13
                (New total =) 5 × 14
                            = 70
                New number = 18
	B1
	M1
	A1
	B1
	4
		
		F.T. 5 × 'their 13 + 1'.
		
		F.T. 'their <u>derived</u> new total' − 'their original total'.

13. 4 × 4 × 4
       64 (cm³)
       64 / (8×4)   or   32h=64
       2(cm)
	M1
	A1
	M1
	A1
	
	4
		Alternative method:
		4 × 4 M1
		16 (cm²) A1
		16/8 M1
		2 (cm) A1

GCSE Mathematics Unit 2: Foundation Tier	Marks	Comments

14.   More girls in class B than in class A.
      Equal number of girls and boys in class B.
      Ratio of Girls : Boys = 3 : 1 in class A.
	B1
	B1
	B1
	3	

15. $x + 2x + 3x = 180$
            $x = 30$
    Three angles are 30(˚), 60(˚), 90(˚)
	M1
	A1
	A1
	
	3
		SC1 for the answers of 30(˚), 60(˚) and 90(˚) without forming an equation
		SC1 for the answers of 60(˚), 120(˚) and 180(˚) from equating to 360

16.(a) All 13 numbers placed correctly and no extra.	B4	B3 for 10,11 or 12 correct OR all correct but omission of numbers outside A∪B. B2 for 8 or 9 correct. B1 for 6 or 7 correct. *Any duplicates are marked as incorrect.*
(b) $\dfrac{4}{13}$	B2 6	F.T. 'their diagram'. B1 for a numerator of 4 OR a denominator of 13 in a fraction less than 1.
17. 4·38	B2 2	B1 for 4·37(7.....)
18. <u>Clockwise</u> <u>rotation</u> of <u>90°</u> <u>about the origin</u>.	B3 3	For all four components. B2 for any three, B1 for any two. (Penalise '¼ turn' −1 only.)