GCSE MARKING SCHEME

AUTUMN 2017

**GCSE
MATHEMATICS
UNIT 2 - FOUNDATION TIER
3300U20-1**

INTRODUCTION

This marking scheme was used by WJEC for the 2017 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

GCSE Mathematics Unit 2: Foundation Tier Autumn 2017 Final Marking Scheme	Mark	Comments
1.(a) 20 000 000	B1	
1.(b) Two point four six	B1	Do not accept two point forty six or two dot four six.
1.(c) $5 \times (\ 4\ +\ 2\ )\ =\ 30$	B1	
1.(d) (i) 6531	B1	
1.(d) (ii) 5316	B1	
1.(e) 8	B1	
1.(f) > > < <	B2	For all four correct. B1 for any three correct. Allow use of ≥ or ≤
2.(a) Unambiguous parallel line, drawn through the point C.	B1	
2.(b) Unambiguous perpendicular line, drawn through the point D.	B1	
3.(a) 17	B1	
3.(b) Add four (to the previous term)	B1	Accept 'plus 4' or '(goes) up in 4s'. Allow +4 or 4n-3. B0 for n+4

4.   FALSE
       TRUE
              FALSE
              FALSE
	B2	For all four correct.
		B1 for any three correct.

5. (Number of girls in class = 32 – 18 =) 14	B1	
(Number of girls/boys on trip = 12 ÷ 2 =) 6	B1	
(Number of girls who stayed in class = 14 - 6=) 8	B1	FT 'their 14' – 'their 6' provided B1 previously awarded.
Organisation and Communication	OC1	For OC1, candidates will be expected to: • present their response in a structured way • explain to the reader what they are doing at each step of their response • lay out their explanations and working in a way that is clear and logical
Accuracy of writing.	W1	For W1, candidates will be expected to: • show all their working • make few, if any, errors in spelling, punctuation and grammar • use correct mathematical form in their working • use appropriate terminology, units, etc.
6.(a) (1, 2)	B1	
6.(b) (-2, -4)	B1	
6.(c) No, and a valid explanation e.g. any point on the line has a y coordinate which is double the x coordinate. OR the line would go through the point (6, 12) OR the line would go through the point (4.5, 9).	B1	The 'no' may be implied. Accept equivalent wording.

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7.(a) 4 x 37 = 148 (10% of 148 =) 14.8	M1 A1 B1	 FT 'their 148' if of equivalent difficulty (i.e. not a multiple of 10). Do not follow through 37.
7.(b) 4	B3	B2 for 4 x 6 + 25 = 49 OR for 2 trials of 'a number between 1 and 9' x 6 + 25 with at least one evaluated correctly. B1 for trial of 'a number between 1 and 9' x 6 + 25 (May not be evaluated correctly). Accept evaluation of 'a multiple of 6 + 25' as a trial. <u>Correctly evaluated trials</u> 1 x 6 + 25 = 31 (31÷7 = 4.4285….) 2 x 6 + 25 = 37 (37÷7 = 5.2857…) 3 x 6 + 25 = 43 (43÷7 = 6.1428…) 4 x 6 + 25 = 49 (49÷7 = 7) 5 x 6 + 25 = 55 (55÷7 = 7.8571…) 6 x 6 + 25 = 61 (61÷7 = 8.7142…) 7 x 6 + 25 = 67 (67÷7 = 9.5714…) 8 x 6 + 25 = 73 (73÷7 = 10.4285…) 9 x 6 + 25 = 79 (79÷7 = 11.2857…)
8.(a) 4.5	B1	
8.(b) 4	B1	
9.(a) 6x	B1	
9.(b) 3885	B1	
10.(a) 0·08 × (£)3.25 OR 0·08 × 325(p) or equivalent = (£)0.26 OR 26p	M1 A2	 Mark final answer. Allow £0.26p. <u>If A2 not awarded</u> allow M1A1 for sight of 0.26 or 26 in working (e.g. 0.26p or £26) Unsupported final answer of (£) 2.99 OR (£) 3.51 gains M1A1.
10.(b) 182 − 114 = 68	B2 B1	B1 for sight of 182 or 114. F.T. 182 – 'their 114' or 'their 182' – 114 correctly evaluated. B1 only for 182 − 0·22(..) = 181.77..
10.(c) 9·32	B2	B1 for 9·3 or 9·30 or 9·31(…...). Mark final answer.
11.(a) 2 (days) 5 (hours) 50 (minutes)	B2	B1 for 2 (days) 5 (hours) n (minutes). B1 for 2 (days) n (hours) 50 (minutes). B1 for n (days) 5 (hours) 50 (minutes). Mark final answer.
11.(b) $\frac{16 \times 60 + 20}{5}$ (=980/5 = 196) OR (3 +) $\frac{1 \times 60 + 20}{5}$ = 3 (hours) 16 (minutes)	M1 A1	 C.A.O. 16(.)20 ÷ 5 = 3(.)24 is M0A0 (196 ÷ 60 =) 3(.)26 is M1A0. (The 196 implied).

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12.(a)	11 OR 18.	B1	B1 for either or both. Answer space takes precedence.
12.(b)	(Original mean =) 9	B1	From (6 + 8 + 13) ÷ 3.
	(New mean = 9 – 1 =) 8	B1	F.T. 'their derived or stated original mean' – 1. Do not allow 27 – 1 = 26 as a new mean for this B1. <u>Unambiguously</u> showing '<u>new mean</u>' = 8 gains B1B1
	(New total = 8 × 4 =) 32	B1	F.T. 'their derived or stated new mean' × 4. <u>Unambiguously</u> showing '<u>new total</u>' = 32 gains B1B1B1
	(Number added =) 5	B1	F.T. 'their identified new total' – 27. Answer space takes precedence for final answer. A final answer of 5 implies all four B1 marks.
13.	(Area =) $\dfrac{(17\cdot3 + 8\cdot2)}{2} \times 9\cdot4$ or equivalent	M1	Allow M1 for correct intent <u>seen</u>. e.g. 17·3 + 8·2 × 9·4 ÷ 2 (M0 if only unsupported answer of 55·84 given.)
	= 119·85 ISW	A1	Accept 120, 119·8 or 119·9 from correct work.
	cm²	U1	Independent of all other marks.
14.(a)	$\dfrac{54}{129}$ (× 100%)	M1	Allow 0·42 or 0·418 or 0·419 to imply M1.
	= 42 (%)	A2	A1 for 41·8(….) or 41·9 or 41·90
14.(b)	Use of $\dfrac{25\cdot8}{6}$	M1	Sight of 4·3 (or 21·5) implies M1.
	21·5 AND 4·3	A1	Accept in either order.
15.	(Probability of a Y =) $\dfrac{2}{13}$ or equivalent	B1	C.A.O. (B1 is implied by an answer of 50.)
	$\dfrac{2}{13} \times 325$	M1	F.T. 'their 2/13', only if <1 AND 2/a or b/13.
	= 50	A1	Must be given as a <u>whole number</u> (truncated or rounded) if following through 'their fraction'. Allow B1M1A0 for a final answer of 50/325. If no marks awarded SC1 for sight of 25.
16.	(Area of the circle =) π × 4·2² OR (Area of semi-circle =) $\dfrac{π \times 4\cdot2^2}{2}$	M1	
	= 55·4(…)(cm²) OR 27·7(…)(cm²)	A1	Accept an answer that rounds to 55·4 cm² OR an answer that rounds to 27·7 cm²
	(Side of square or Diameter =) 8·4 (cm).	B1	Look at diagram. May be seen in further work.
	(Area of the square =) = 70·56(cm²)	B1	Implies previous B1. Allow 70·6.
	(Shaded area = 70·56 − $\dfrac{55\cdot4}{2}$) = 42·85 (cm²)	B1	F.T. 'their area of square'− 'their area of <u>semi circle</u>.' (Allow tolerance of ±0·05 for the subtraction.)