GCSE MARKING SCHEME

SUMMER 2017

GCSE (NEW)
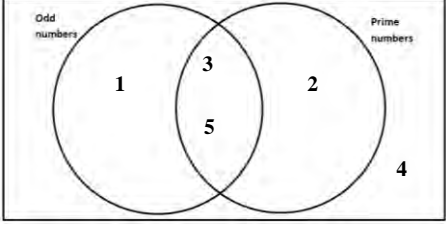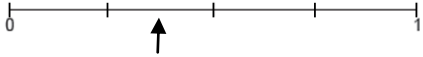**MATHEMATICS - UNIT 2 (FOUNDATION)**
3300U20-1

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 Summer 2017	Mark	MARK SCHEME Comments

1. 778
     905
      35
     645
	B1
	B1
	B1
	B1	

2. < > < <	B2	For all 4 correct. B1 for any three correct. Penalise once only for use of ≤ or ≥.
3.(a)(i) Circle radius 5cm ± 2mm	B1	Use overlay. Continuous line that is drawn with a pair of compasses. Condone failure to use × as the centre.
3.(a)(ii) 10 cm or equivalent	B1	F.T. their circle drawn with a pair of compasses. Units required for B1.
3.(b) Equilateral triangle	B1	
4. 5, 9, 10	B3	Answers in the spaces provided take precedence. B2 for meeting 3 of the 4 conditions: • the three numbers are different • one number is a square number • the other two numbers are factors of 20 • the sum of the three numbers is 24 B1 for meeting 2 conditions OR for listing either three different square numbers or three different factors of 20.
5.(a) 3	B1	
5.(b) Square	B1	Accept regular quadrilateral.
6.(a) 5530	B2	B1 for 5529(.411…..) OR B1 for 5520
6.(b) 32.36	B2	B1 for 32.35(889….) OR B1 for 32.4
7. 18	B2	B1 for either 24 or -6. B0 for 24x or -6y.

8. Intention to halve 9 minutes 18 seconds OR
         double 4 minutes 48 seconds
 	
  NO, with sight of
  4 minutes 39 seconds OR 9 minutes 36 seconds,
         or   279 (seconds) AND 288 (seconds)
         or   558 (seconds) AND 576 (seconds)
	M1
	
	A1
		
		Accept equivalent statements e.g. Eira is wrong
		Allow incorrect notation for time
		e.g. 4.39, 9.36 (use of decimal points)
		
		Alternative method 1
		Correctly finding the difference between the two times as 4 minutes 30 seconds OR 270 seconds
		                                                                        M1
		
		NO, with comparison e.g. 4 minutes 30 seconds is less than 4 minutes 48 seconds OR 288 seconds is more than 270 seconds *A1*
		
		Alternative Method 2
		Converting both times to seconds, before dividing one quantity by the other *M1*
		
		NO, with sight of 2(.06…) OR 0.4(84375…) *A1*
		
		If no marks, award SC1 for attempting to find the difference between the two times and comparing this with 4 minutes 48 seconds.

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9.	B2	B2 for all fully correct Award B1 for 3 or 4 correct *Any duplicates are marked as incorrect.*
10. (Width of square = 56 ÷ 4 =) 14 (cm)	B1	
(Area of square =) 14^2	M1	F.T. 'their width', provided ≠ 56.
= 196 (cm^2)	A1	
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.
11.(a) 3	B1	
11.(b) unlikely	B1	
11.(c) 	B1	Any indication of ¼ to ½ exclusive.
12.(a) 0·39 × (£)576 or equivalent = (£)224.64 ISW	M1 A1	Do not accept approximating e.g. 10%=£58 etc. Allow £224.64p and 22464p but not 22464.
12.(b) 43	B2	B1 for sight of 42·8(…..) or 42·9 or 42 $^6/_7$ or 300/7. Allow SC1 for 42. B0 for 300 ÷ 7.
12.(c) 40	B1	Accept embedded answers e.g. 0·25 × 40 = 10.
12.(d) $\frac{1}{12}$ or equivalent fraction	B1	Mark final answer. B0 for $\frac{0·5}{6}$, 0·083.. etc.
12.(e) $\frac{10}{12}$	B1	

13.   FALSE
                  TRUE
                  TRUE
                  TRUE
                           FALSE
	B3	For all 5 correct.
		B2 for 4 correct.
		B1 for 3 correct.

14. (7 × 3 =) 21	B2	B1 for sight of 7 × a (or a × 7) OR b × 3 (or 3 × b) OR 7 OR 3 unambiguously identified.
15.(a) 15	B1	
15.(b) 5	B1	Allow unambiguous indication of an answer of 5.

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	GCSE Mathematics Unit 2: Foundation Tier Summer 2017	Mark	MARK SCHEME Comments
16.	8, 15 and 16 OR 9, 13 and 17 OR 10, 11 and 18.	B2	All three numbers must be less than 25. B1 for three numbers with a range of 8. B1 for three numbers whose total = 39.
17.(a)	−3, −1 and 1	B2	B1 for any two correct in the correct positions OR B1 for −5, −3 and −1 OR B1 for −1, 1 and 3.
17.(b)	4n + 3	B2	B1 for sight of 4n or n4 (but not $4n^k$ k≠1). Mark final answer.
18.(a)	0·26	B1	B0 for 13/50, 26/100 etc.
18.(b)	$\dfrac{7 \times 3000}{50}$ or equivalent = 420	M1 A1	Only allow misread if 300 or 30000 used. 420/3000 gains M1A0. Mark final answer.
18.(c)	$\dfrac{1 \times 3000}{6}$ or equivalent = 500	M1 A1	Only allow misread if 300 or 30000 used. 500/3000 gains M1A0. Mark final answer. Allow M1A0 for 480 or 510 or 498 as implying 1/6 to be 0·16 or 0·17 or 0·166.
19.	(Angle DOC or exterior angle =) $\dfrac{360(°)}{5}$ = 72(°) (x =) $\dfrac{180 - 72}{2}$ = 54(°)	M1 A1 M1 A1	*Answers/working may be seen on diagram.* Sight of 72 (even x = 72) gains M1A1. FT 'their 72' (but not 60°). *Alternative method* *(Sum of interior angles =)* *(5 − 2)×180° or equivalent M1* *= 540(°) A1* *FT 'their interior angle sum' (≠ 900)* *(x =) ½ × (540 ÷ 5) M1* *= 54(°) A1*
20.	(BC =) (24 − 2x7)/2 (BC =) 5(cm) (Area CDEF =) $\dfrac{(7 + 3)}{2} \times (9 - 5)$ or equivalent. = 20 (cm^2)	M1 A1 M1 A1	*Lengths may be seen on diagram.* A clearly shown incorrect method for finding CD is M0A0 otherwise CD=4(cm) implies this M1A1. F.T. 'their derived 5' OR F.T. $\dfrac{(7 + 3)}{2}$ × 'their stated or shown length CD (<9)' Allow M1 for correct intent e.g. '7 + 3 × 4 ÷ 2' then A0. Ignore any further attempt to find total area of whole shape if area of CDEF <u>seen.</u>