GCSE MARKING SCHEME

AUTUMN 2019

GCSE
MATHEMATICS – UNIT 2
FOUNDATION TIER
3300U20-1

INTRODUCTION

This marking scheme was used by WJEC for the 2019 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.

WJEC GCSE MATHEMATICS

AUTUMN 2019 MARK SCHEME

GCSE MATHEMATICS Unit 2: Foundation Tier	Mark	Comments

1.   72 150
                           52
        59 168
                           158
	B1
	B1
	B1
	B1	

2.(a) (44), 88, 132, 176, 220	B1	Ignore any additional multiples
2.(b) 33	B1	
3. > < > <	B2	For all four correct. B1 for any three correct.

4.   (Perimeter of triangle = 14 + 14 + 14)
                            = 42 (cm)
        (Length of side of square =) 42 ÷ 4
                            = 10.5 (cm)
	B1
	M1
	A1
		May be implied.
		F.T. 'their 42' provided ≠ 14

OCW Organisation and Communication. Accuracy of writing.	OC1 W1	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 explanation and working in a way that is clear and logical • write a conclusion that draws together their results and explains what their answer means. 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
5. 0.1(0) 10% $\frac{2}{25}$ 0.08	B4	B1 for each correct response.
6.(a) 32.16	B1	Accept $32\frac{4}{25}$ and $\frac{804}{25}$. B0 for 804 ÷ 25.
6.(b) 0.4	B1	Accept $\frac{2}{5}$. B0 for 2 ÷ 5 or $\frac{1.6}{4}$
7.(a) trapezium	B1	
7.(b) cuboid	B1	
7.(c) a reflex angle	B1	
7.(d) parallelogram	B1	
8.(a) Point R plotted correctly	B1	
8.(b) (-3, 2)	B1	
9. 275	B2	B1 for sight of 301.

10.(a) 1, 4 and 25		B3	Answer space takes precedence. Accept 1^2, 2^2 and 5^2. B2 for writing three numbers which add to 30, two of which are square (e.g. 16, 9, 5). B1 for writing three numbers: • at least two of which are square, OR • which add to 30, one of which is square, OR • which are all square. SC2 for an answer of 1, 2 and 5 with correct working. SC1 for an unsupported answer of 1, 2 and 5
10.(b) 1, 5, 7, 7 OR 3, 5, 7, 7		B3	Answer space takes precedence. B2 for writing four <u>odd and positive</u> numbers (not 7, 7, 7, 7) which fulfil one of the conditions: • the mode of the numbers is 7 • the median of the numbers is 6 OR for an answer which satisfies <u>both</u> conditions but includes an even number (e.g. 2, 5, 7, 7) B1 for writing four numbers which fulfil only one of the conditions: • the mode of the numbers is 7 • the median of the numbers is 6 OR for an answer of 7, 7, 7, 7.
11.(a) 0·125 × 1176 or equivalent. = 147 ISW		M1 A1	
11.(b) 4·7		B2	If further incorrect work shown e.g. '4·7 = 5' then allow B1 only. B1 for sight of 4·6 or 4·68(…..) or 4·70
12. f = 73(°) g = 128 − 73 = 55(°)		B1 M1 A1	F.T. 128 − 'their f'.
Alternative method *f = 73(°)* *g = 180 – (180 −128) – 73* *= 55(°)*		*B1* *M1* *A1*	*FT 'their f'.*
13. (1) **5** (9) (7) (8) **2** _____ **9** (4) (1)		B3	B1 for each. No F.T.
14.(a) $\frac{1}{12}$		B1	
14.(b) D		B1	
14.(c) $\frac{1}{3}$		B1	
15. Sight of 6·25 (hrs) OR 375 (min) (Planning =) $\frac{2}{5}$ × 6·25 OR $\frac{2}{5}$ × 375 = 2·5 (hrs) OR 150 (min) (Remainder of work = 6·25 − 2·5 OR 375 – 150 =) 3·75 (hrs) OR 225 (min) = 3 hours 45 minutes		B1 M1 A1 B1 B1	F.T. 'their time' in hours or in minutes. May be seen in parts (1/5th and then 2/5ths) [Note: 2/5 × 6·15 OR 2/5 × 615 is B0M1(FT) = 2·46(hrs) OR 246(min) A1(FT) BUT A0 if 2·46 then used as 2h 46m] F.T. 'their derived times' using same units. F.T. correct conversion of 'their times', correct to the nearest minute (rounded or truncated), if of equivalent difficulty. Allow unambiguous indication of units.

Alternative method 1			
Sight of 6·25 (hrs) OR 375 (min)	*B1*		
(Remaining work takes) 3/5 of time	*B1*		
= 3/5 × 6·25 OR 3/5 × 375	*M1*	*F.T. 'their time' in hours or in minutes.*	
= 3·75 (hrs) OR 225 (min)	*A1*		
= 3 hours 45 minutes	*B1*	*F.T. correct conversion of 'their times', correct to the nearest minute (rounded or truncated), if of equivalent difficulty.* *Allow unambiguous indication of units.*	
Alternative method 2			
(Planning =) $\frac{2 \times 6}{5}$ AND $\frac{2 \times 15}{5}$	*M1*		
= 2·4(hrs) AND 6(min)	*A1*	*2·4 hrs may be given as 2hrs 24min.*	
= 2hrs 30min	*A1*	*C.A.O.*	
(Remainder of work =) 6(hr) 15(min)−2(hrs) 30(min)	*M1*	*F.T. 'their derived planning time' in hours and min.*	
= 3 hours 45 minutes	*A1*		
Alternative method 3			
(Remaining work takes) 3/5 of time	*B1*		
= $\frac{3 \times 6}{5}$ AND $\frac{3 \times 15}{5}$	*M1*		
= 3·6(hrs) AND 9(min)	*A1*	*3·6 hrs may be given as 3hrs 36min.*	
= 3hrs 36min + 9(min)	*M1*	*F.T. 'their derived times' in hours and min.*	
= 3 hours 45 minutes	*A1*		
16.(a) Attempt at 323 + 217 AND 122 + 58	B1	Allow for an attempt at adding the correct two pairs of numbers.	
= 3 : 1	B2	B1(plus previous B1) for a ratio equivalent to 3 : 1 e.g. 540 : 180. Allow B1B1 for a final answer of 1 : 3. If no marks gained allow SC1 for a final answer of 89 : 55 OR 55 : 89 (Llandudno : Aberystwyth ratio.)	
16.(b) $\frac{445}{720}$ ISW $\left(\frac{89}{144}\right)$	B2	0·618(…) or 0·62 or 61·8(..)% or 62% implies B2. B1 for x/720 if x < 720. B1 for 445/y if y>445. Allow B1 for 0·61 or 61%. Penalise -1 for incorrect notation, e.g. 445 out of 720.	
17.(a)		F.T. until 2nd error. Adding 'unlike terms' eg 12x + 8 = 20x or 3x + 2 = 5x to be taken as two errors.	
12x + 8 = 12 OR 3x + 2 = 3	B1		
12x = 4 OR 3x = 1	B1		
x = $\frac{4}{12}$ OR x = $\frac{1}{3}$	B1	Mark final answer. Allow 0·33(33...) A final answer of 0·3 is (B1B1)B0.	
17.(b) 3x + 10x	B2	B1 for 3x + 5 × 2x OR for sight of 10x	
13x (pence)	B1	Mark final answer.	
18. a = 123(°)	B1		
b = 57(°)	B1	OR F.T. 180 – a.	
c = 74(°)	B1		