GCSE MARKING SCHEME

AUTUMN 2019
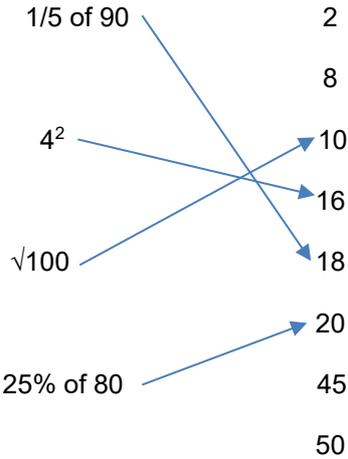
GCSE
MATHEMATICS – UNIT 1
FOUNDATION TIER
3300U10-1

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 1: Foundation Tier	Mark	Comments
1.(a) Correct position of B	B1	**Use overlay** ± 2 mm
1.(b) 63°	B1	Accept 61(°) – 65(°)
2.(a)(i) 802	B1	
2.(a)(ii) 145	B1	
2.(a)(iii) 20	B1	
2.(b) 6·4 6·49 6·9 6·94	B1	
3. 	B1 B2	Penalise incorrect lines -1 only for each shape B1 for 2 or 3 correct lines of symmetry
4.(a) 82	B1	
4.(b) 11	B1	
5.(a) unlikely	B1	
5.(b) likely	B1	
6.(a) 3 opposite 9 AND 5 opposite 7	B1	
6.(b) 4, 8, 28 Or 4,12, 24 Or 4,16, 20 Or 8,12, 20	B2	The values in the boxes take precedence. The numbers can be written in any order. B1 for any three multiples of 4 which are all different but do not add up to 40 (e.g. 4, 12, 20) OR which are not all different but do add up to 40 (e.g. 8, 16, 16). If boxes empty, then give credit as above for unambiguous answers in working space.

7.(a)(i) (x =) 8	B1	Accept embedded answer. Mark final answer.
7.(a)(ii) (x =) 14	B1	Accept embedded answer. Mark final answer.
7.(b)(i) 8n	B1	Mark final answer.
7(b)(ii) $m - 3$	B1	Mark final answer.

8.
 	
1/5 of 90   2
 	
            8
 	
4^2 10
 	
      16
 	
$\sqrt{100}$ 18
 	
      20
 	
25% of 80   45
 	
      50
	B4	B1 for each correct answer

9. (Total length in inches =) [4 + 1½] × 3 × 12 or equivalent This may be given in stages, e.g. (4 yards =) 4 × 3 × 12 (= 144 inches) (1 yard =) 1 × 3 × 12 (= 36 inches) (1/2 yard =) ½ × 3 × 12 (= 18 inches) AND with intention to add (Total length in inches =) 198 (inches)	M2 A1	M1 for use of '× 3 × 12' with 4 or 1½ or 1 or ½ OR for [4 + 1½] × 3 (= 16½ feet) OR for [4 + 1½] × 12 (= 66) CAO

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

10. $(x =) \dfrac{360 - 120}{4}$		M2	M1 for 4x + 120 = 360 OR for (4x =) 360 – 120 OR for sight of 240 OR for $\dfrac{\text{'their 360'} - 120}{4}$, where 'their 360' > 120 M0 for $\dfrac{120}{4}$
	(x =) 60	A1	CAO
11. −4(°C) Up 3(°C) −1(°C)		B1 B1 B1	 Allow +3 (but not 3) for this B1.
12. Showing (7%), 60% and 30% OR 7/100 , 60/100 and 30/100 OR 0·07, 0·6 and (0·3) OR three correct calculations for a common amount.		B2	B2 for all correct %, OR all correct fractions <u>with a common denominator</u>, OR all correct decimals OR correct work using a common amount, OR a valid combination that allows full comparison. B1 for one correct conversion <u>that still allows a **full comparison**</u>. (i.e. allow one error in attempt at a **common format**.)
7% 0·3 3/5 in order		B1	Allow any unambiguous indication (e.g. 'converted values'). **Strict FT** of 'their work' if at least B1 gained. Correct answer with <u>no</u> other marks awarded, gains final B1.
13.(a) 2		B2	B1 for sight of – 18 (not – 18x) OR B1 for sight of (+)20 (not 20y and not −20). Mark final answer.
13.(b) 6g – 9f		B2	Must be an expression for B2. B1 for sight of (+)6g OR sight of – 9f. B1 for 6g + – 9f. Mark final answer.
13.(c) 12x −20		B1	Must be shown as an expression. C.A.O. Mark final answer.
14. 3 AND 11		B2	Accept in any order. B1 for two numbers with a sum of 14 OR B1 for two numbers with a range of 8. Accept non-integers for B1 marks.
15. x = 180 −90 − 50 or equivalent = 40(°) (Bearing =) 130(°)		M1 A1 B1	 May be seen on diagram. OR FT 90 + 'their x'. Must be in 3-digit form.
16.(a) 9		B1	
16.(b) $\dfrac{3}{14}$ ISW		B2	B1 for x/14 if x < 14. B1 for 3/y if y>3. Penalise -1 for incorrect notation, e.g. 3 out of 14, 3 ÷ 14, 3 : 14 etc.

17.	36	B3	B2 for 4, 9 or 12. B1 for 1, 3, 6, 15, 16, 18, 20, 21, 24, 25, 27, 28, 30, 33 or 39. B0 for any other numbers.
18.(a)	4·034 kg	B1	
18.(b)	815 cm	B1	
18.(c)	4000 mm^3	B1	
19. (Area of ABCF =) 91 = 7 × CF (CF = 91/7 =) 13 (cm) (Area CDEF =) $\dfrac{(13 + 8) × 6}{2}$ = 63 (cm^2)		M1 A1 M1 A1	*Lengths may be shown on the diagram.* Allow AB shown as 13 (cm) for M1 A1. Allow an embedded 13 e.g. 7 × 13 = 91 for M1 A1. If '13' <u>seen</u> to come from '6 + 7' then M0 A0. FT 'their stated or shown length CF'. Must be equal to AB if only AB calculated. Allow M1 for correct intent <u>seen</u>. e.g. 13 + 8 × 6 ÷ 2 (M0 if only unsupported answer of 37 given.)
20.(a) 1 – (0·2 + 0·3 + 0·25 + 0·15) or equivalent = 0·1		M1 A1	
20.(b) 0·3 × 200 or equivalent = 60		M1 A1	A final answer of 60/200 implies M1 A0.