GCSE MARKING SCHEME

SUMMER 2018

GCSE (NEW)
MATHEMATICS – UNIT 1 (FOUNDATION TIER)
3300U10-1

INTRODUCTION

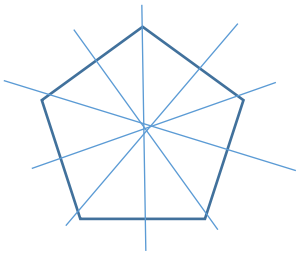
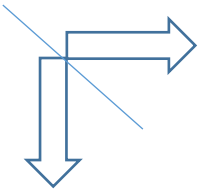
This marking scheme was used by WJEC for the 2018 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' 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 (NEW)

SUMMER 2018 MARK SCHEME

GCSE Mathematics Unit 1: Foundation Tier Summer 2018	Mark	Comment
1.(a) 11·5 (cm)	B1	Accept 11·3 - 11·7 (cm)
1.(b) circle with radius 6 cm	B1	
1.(c) 134 (º)	B1	Accept 132 – 136 (º)
2.(a) likely	B1	
2.(b) an even chance	B1	
3. 	B1	Intention of drawing 5 correct lines
	B1	Intention of drawing correct line
4.(a) (i) 22 (cm)	B1	
4.(a) (ii) 18 cm^2	B1 U1	
4.(b) Rectangle 3 × 6	B1	Accept any rectangle with an area of 18 cm^2 which fits on the grid e.g. 4 × 4.5 FT 'their (a)(ii)'
5.(a) (i) 11	B1	
5.(a) (ii) 6	B1	
5.b) (i) 2000	B1	Allow 1000s or thousand(s) B0 for 1000
5.(b) (ii) 60	B1	Allow 10s or tens B0 for 10 or ten
5.(c) $[7 + 13 + 10 + 4 + 6] \div 5$ or $40 \div 5$ 8	M1 A1	If no marks, award M1 A0 for sight of number between 27 and 53 inclusive ÷ 5.

6. (Step 2: 3 × 15 =) 45 (Step 3: ⅔ × 15 =) 10 (62.5 – 45 – 10 =) 7.5 (Percentage = $\frac{7.5}{15}$ × 100(%) =) 50(%)	B1 B1 B1 B1	 FT 'their 45' and 'their 10' FT $\frac{\text{'their 7.5'}}{15}$ x 100
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 explanations 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.
7.(a) (x =) 7	B1	Allow embedded answer. Mark final answer.
7.(b) (x =) 19	B1	Allow embedded answer. Mark final answer.
7.(c) (x =) 6	B1	Allow embedded answer. Mark final answer.
8. 16*x* 7 *x* 5 *x*	B1 B1 B1	FT from middle row to top row If no marks, award SC1 for 16 and 7 and 5 in correct places.
9. (BÂP =) 72° (AP =) 6·8 (cm)	B1 B1	± 2° ± 2 mm
10.(a) **Both** 13 AND 19	B2	Accept in any order. B1 for 17 AND 15. If B2 not awarded, B1 for any TWO of 11, 13, 17 and 19.
10.(b) 12	B2	B1 for 16 or 18 or 20. B1 for 12 AND any multiple of 12 (not in the list).
10.(c) 17	B1	
11.(a) 10 miles	B1	
11.(b) 1 kg	B1	
11.(c) 7 pints	B1	

12.(a) −5 −1 1	B2	B2 for all three correct. B1 for one or two correct.
12.(b) Correct plots. Straight line from (−4,−7) to (6,3)	P1 L1	FT 'their y-values at x = −2, 2 and 4'. 2 correct plots sufficient as they are told it's a straight line. Allow ±'½ a small square'. P0 if any incorrect plot. CAO no FT. Allow ±'1 small square'. Must be from (−4,−7) to (6,3) but allow 'extended' line. A correct line gains P1L1.
12.(c) (−4,−7) (6,−7) (6,3) (−4,3) (In any order)	B2	B2 for all four correct. B1 for three correct. *Only award B1 (not B2) if <u>all four</u> correct coordinates given for their extended line.* If L0 from a 'shortened <u>correct</u> line' then FT (for B2 or B1). If L0 from an incorrect line then FT (for B2 or B1) only <u>if a quadrilateral has been **drawn using** 'their line' as a diagonal</u>. SC1 for <u>the correct</u> square <u>drawn</u> but no (or incorrect) coordinates given.
13.(a) Statement indicating that 0·3 is less than 0·5. OR Statement indicating that probability of selecting a blue ball should be greater than 0·5. OR Statement that refers to a proportion of the balls e.g. '(Only) 30% (of the balls) are blue', '(Only) 3/10(ths) (of the balls) are blue'.	E1	B0 for e.g. 'Fewer than half the balls are blue'. 'Should be higher', 'Would be above 0·3'. Allow correct interpretation of 0·3 e.g. '(Only) 30 out of 100 are blue', '(Only) 15 out of 50 are blue'. Accept any indication for 0·5, e.g. 'half', '½'.
13.(b) 0·7 or equivalent.	B1	B0 for incorrect notation; e.g. 7 out of 10.
13.(c) 0·3 × 50 15	M1 A1	If no marks gained, allow SC1 for sight of 15; e.g. 15/50, 15:35.
14. Correct cuboid	B2	For B2, their cuboid must have edges along or parallel to the 3 directions usually associated with isometric paper (the two diagonals and the vertical). B1 for any one edge dealt with correctly for all its three occurrences <u>in a cuboid</u>. For any mark to be awarded the line must go 'through the dots' AND have both ends 'on a dot'. Ignore attempt at handling 'hidden lines'.
15. (i) 9	B1	Mark final answer.
15. (ii) −5	B1	Mark final answer.

16. 50	B3	Award B1 for each of the 2nd, 3rd and 4th condition *1-20 gain B1 apart from,* B0 for 4,12,16,20. B2 for 2,18. *21-79 gain B2 apart from,* B1 for 24,28,36,40,44,48,52,56,60,64,68,76. B3 for 50. *80-100 gain B1 apart from,* B0 for 80,84,88,92,96,100. B2 for 98. Otherwise B0 if number greater than 100. B0 if not a whole number.
17. (EC = Side of the square =) $\frac{28}{4}$ = 7(cm) (Area of triangle CDE =) $\frac{7 \times DE}{2} = 35(cm^2)$ (DE =) 10(cm)	 M1 A1 M1 A1	*Lengths may be seen on the diagram.* Any side of square shown as 7(cm) is M1A1. FT 'their stated or shown length for EC'.
18.(a) Correct reflection in y = 1.	B2	B1 for correct reflection in x = 1 OR B1 for sight of line y = 1
18.(b) Clockwise rotation of 90(°) about the origin.	B3	For all **four** components. Accept anticlockwise rotation of 270° about the origin. B2 for any three. B1 for any two. 'Origin' may be stated as e.g. (0,0) or 0 or O. Do not accept 'turn' for rotation. Allow for 'about the origin' any reference to the origin. e.g. 'in the origin', 'around the origin', 'from (0,0)' etc. If not a single transformation (e.g. 'clockwise rotation of 90 and then …..) penalise −1 mark from any marks gained. (Above example gains B2 −1 = 1 mark.)