GCSE MARKING SCHEME

AUTUMN 2019

GCSE
MATHEMATICS – COMPONENT 2 (FOUNDATION TIER)
C300U20-1

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.

GCSE MATHEMATICS

COMPONENT 2 - FOUNDATION TIER

AUTUMN 2019 MARK SCHEME

Eduqas Autumn 2019 **C2 Foundation Tier**		**Comments**
1(a) (67 × 5 =) 335(p) or (£)3.35	B1	If units are seen they must be correct. Allow £3.35p.
1(b) £1.01 - £0.67 = (£)0.34 or 34(p)	M1 A1	If units are seen, they must be correct. Allow £0.34p.
1(c) 3 × 2.95 + 2 × 5.75 = (£)20.35	M1 A1 (5)	If no marks awarded, SC1 for (£)8.85 and (£)11.50 or for 885(p) and 1150(p) seen.
2(a)(i) Radius (ii) Chord (iii) Parallel	B2	B2 for all three correct B1 for any two correct
2(b) Draws an accurate triangle, with angle BAC = 90° $\pm$ 2° and line AC = 6.5cm $\pm$ 0.2cm	 B2 (4)	The triangle must be 'closed' to gain B2. Candidates are not expected to use compasses. Award B1 if one error, e.g. line or angle out of tolerance or BC not drawn.
3(a) Cube	B1	
3(b) B	B1 (2)	
4(a) H correctly positioned on the diagram (3, 2)	B1 B1	 FT 'their H'
4(b) J correctly positioned on the diagram (-2, 6)	B1 B1 (4)	 FT 'their J', provided at least one negative coordinate.
5(a) 11.8 × 3.2 = 37.76 = 40 (m^2)	M1 A2	 If A2 not awarded, award A1 for 37.76(m^2)
5(b) Indicates 'No' and explains e.g. 'needs 5 tins'	E1 (4)	Or equivalent explanations such as 'needs extra 0.4'

6(a) (£8.12 × 52 weeks) = (£)422.24	B1	
6(b)(i) 4 (weeks) × 7.35 = (£)29.4(0)	M1 A1	
6(b)(ii) Valid reason e.g. 'she needs to multiply by 13' 'there are more than 48 weeks in the year' 'some months are longer than February' 'February has less days than other months'	E1	Accept 'she needs to multiply by 52' or 'February only has 4 weeks'
6(c) 28 + 15. (43 days) × (0.)95 = (£)40.85 or 4085(p) AND Indication that he can afford the ticket. e.g. 'yes >40'	M1 M1 A1 (7)	 FT 'their 28 + 15' provided >31 FT 'their 4085(p)' If no marks, award SC1 for either 28 x 0.95 or 15 x 0.95
7(a)(i) (23 × (£)5.90) = (£)135.7(0)	B1	
7(a)(ii) 218.30 ÷ 5.90 = 37 (hours)	M1 A1	FT 'their 5.90' used in (i) provided that it is one of the rates from the table. Accept embedded answers
7(b) 32 × 7.38 + 25 = (£)261.16	M1 A1 (5)	
8(a)(i) (dog) 16 AND (Bird) 12 completed into the table. Draws a bar with height 4 squares and width 2 squares.	B2 B1	B1 for 16 or 12 or for any indication that the vertical axis is 2 pets to each square.
8(a)(ii) Dog	B1	
8(b)(i) 75°	B2	B1 for sight of 360 × 10 ÷ 48 or 7.5 or 0.2083(3…) or equivalent (e.g. 20.83%)
8(b)(ii) 17/48 or equivalent	B1 (7)	ISW
9(a)(i) $3a+7$ or equivalent	B2	B1 for either $7 \pm ...$ or $3a \pm ...$
9(a)(ii) $3x+6$	B2	B1 for either $3x+...$ or $...+6$
9(b)(i) (x =) 9	B1	Accept embedded answers
9(b)(ii) (y =) 42	B1	Accept embedded answers
9(c) -2 + 6 x 3 =16	M1 A1 (8)	

10(a) 37(%)	B1	
10(b) Eight million, one hundred thousand (and) forty three	B1	CAO
10(c) 48% of 3650 (=1752) 1752 × 3400 = (£)5 956 800	M1 M1 A1	 FT 'their 1752' CAO
10(d) $^{1103}/_{1960}$ or $^{27575}/_{49000}$ ISW	B1 (6)	Or equivalent fraction
11(a) 2.5	B1	
11(b) 396 (litres)	B2	B1 for 264 x 99 ÷ 66 or 264 + ½ of 264 or equivalent
11(c) 5 + 3 × 5 + 3 × 5 ÷ 2 27.5 × 2 × 4.95 (£) 272.25	M1 M1 A1 (6)	May be implied by sight of 27.5 (litres) FT 'their derived 27.5' CAO If no marks, award SC1 for sight of 15 and 7.5, or SC2 for 2 x 4.95 (9.90) x 5 (=49.50) and 9.90 x 15 (=148.50) and 9.90 x 7.5 (=74.25)
12(a)(i) 72(°)	B1	
12(a)(ii) 37(°)	B1	
12(a)(iii) 180 – (72 + 72) = 36(°)	M1 A1	
12(b) (Isosceles) Trapezium	B1 (5)	

13(a) 3 × 48 ÷ 4 (36) + 4 × 72 ÷ 8 × 5 (180) (36 + 180) = 216 (Total train capacity is) 1 × 48 + 4 × 72 = 336 ($^2/_3$ of 336 =) 224 or (216/336 =) 0.64(…) or 64(.28…)% **AND** indicates that the train manager is not correct	M1 M1 A1 M1 A1 B2	Watch out for alternative methods referring to seats empty. This is 12 seats instead of 36, 108 seats instead of 180 and 48 seats instead of 216. Must state that these are empty seats. FT 'their derived 336' B1 for sight of $^2/_3$ of 336 or 216/336 or 224 or 0.64(…) or 64(.28…)% Note that a common error is to use only 1 standard carriage instead of 4. In this case, their 336 would be 120, Their 224 would be 80, Their 216 would be 81, Therefore, the train manager would be CORRECT. Candidates can get B1 for these numbers seen, and B2 if their decision is correct.
13(b)(i) Time = 100 ÷ 80 (= 1.25 hrs) 11:50 + 1hr 15 mins (Arrival time) 13(:)05 or 1(:)05 p.m.	 M1 m1 A1	 FT 'their 100 ÷ 80' Allow for 1.25 hours or 1 hr 25 mins CAO. Allow 1(:)05 or 13(:)05(pm)
13(b)(ii) Affect, e.g. 'The arrival time would be later'	E1 (11)	Accept, e.g. 'the journey would take longer' or 'it would be later' but do not accept 'it would be longer'
14(a) 1420 × 1.2 or equivalent 0.0125 × (£)146000 or equivalent Blue Blocks (£)1704 AND Sell 'em Fast (£)1825 AND choice of Blue Blocks	M1 M1 A2	Allow for selling price + fees calculated correctly. A1 for sight of either (Blue Blocks £)1704 or (Sell 'em Fast £)1825 Difference of £121 indicates correct method.
14(b) (0 × 125 000 +) 0.02 × 125 000 + 0.05 × (380 000 – 125 000 – 125 000) or equivalent full method (= £2500 + £6500) (Stamp duty =£) 9000 AND indicates incorrect	 M2 A1 (7)	 M1 for sight of working with 0.05 × (380 000 – 125 000 – 125 000) or 5% of the additional cost of the house, 0.05 × (380 000 − 275 000)

15(a) $8x + 24y + 32$	B3	Accept any correct factorised expression B2 for a correct but unsimplified answer, e.g. $2(4x + 8) + 2(12y + 8)$ or $\underline{x + 4} + \underline{12y + 8} + \underline{4x + 8} + \underline{3y + 4} + \underline{3x + 4} + \underline{9y + 4}$ B2 for a correctly simplified answer with an error in <u>one</u> of the 'missing' sides B1 for an unsimplified answer with an error in one of the 'missing' sides, or sight of $3x + 4$ AND $9y + 4$ Or correctly simplified expression with one 'missing' side omitted.
15(b) 8	B1 (4)	Strictly FT 'their perimeter' providing a multiple > 1 exists
16*. 500×1.034^{25} = (£) 1153.41	M1 A2 (3)	Or equivalent full method Must be to the nearest penny A1 for (£) 1153.40(9...)
17*. Sight of $x + 5 + x - 10 + x - 75$ (+125) $3x - 80 + 125 = 360$ or $3x - 80 = 360 - 125$ or $3x = 315$ $x = 105$	B1 B1 B1 (3)	 Implies previous B1 FT 'their $x + 5 + x - 10 + x - 75$' provided it contains at least 2 of the appropriate angle terms, simplified and correctly equated CAO. An answer 'x = 105' without previous equation is awarded B0
18*. 64 km/h is $64 \times 50 \div 80$ 40 (mph) $12 \times 1.3 + 24 \times 1.2$ or for sight of 15.6 and 28.8 44.4 (m)	M1 A1 M1 A1 (4)	 CAO FT 'their mph' for one of: • intention to calculate '$a \times 1.3 + b \times 1.2$' • correctly evaluated '$a \times 1.3$ and $b \times 1.2$' provided 'their b' > 'their a' Only FT for speeds used from the table
19*. $6x^2 - 16x - 21x + 56$ $6x^2 - 37x + 56$	B2 B1 (3)	B1 for any 2 terms correct FT for equivalent level of difficulty, providing at least 3 terms to consider and like terms to collect
20*(a) 2.6 (cm)	B1	
20*(b) Mid points 2, 3, 4, 5, 6 $2 \times 4 + 3 \times 2 + 4 \times 1 + 5 \times 0 + 6 \times 3$ $\div 10$ 3.6 (cm)	B1 M1 m1 A1	 FT 'their mid points' provided 4 lie within, including 'bounds', of the groups, allow 1 of the mid points is outside the group
20*(c) $5 \times 4.7 + 23.9$ $\div 6$ 7.9 (cm)	M1 m1 A1 (8)	

21*(a) Sight of appropriate measurements 0.8 (m) and 1.2 (m) Full method to find the correct angle, e.g. tan x = (0.8 / 1.2) (x =) $\tan^{-1}$ (0.8/1.2) 33.69...(°) or 33.7(°) or 34(°)	B1 M1 m1 A1	 FT 'their 2.5 – 1.7' and 'their 2.4 ÷ 2' If no marks, then award SC1 for an answer of 56(.3°) (or equivalent unrounded irrespective of any labelling on the diagram)
21*(b) 2.4 × 2.04 ÷ 1.7 or 2.5 × 2.04 ÷ 1.7 2.88 (m) or 2.9 (m) 3 (m)	M1 A1 A1 (7)	
22*(a) Flour 70 × 102 ÷ 17 OR Sugar 10 × 102 ÷ 17 Flour 420 (g) Sugar 60 (g)	M1 A1 A1	 If answer reversed, allow A1 only
22*(b)2200 – 390 – 2 × 268(=1274) $\frac{1274}{2200}$ (× 100) or equivalent 57.91(%)	B1 M1 A2 (7)	 FT 'their 2200 – 390 – 2 × 268' CAO. A1 for 57.9(090...%) or 58(%) If no marks, award SC2 for an answer of 42.09(%)