



GCSE MARKING SCHEME

AUTUMN 2019

**GCSE
MATHEMATICS – NUMERACY
UNIT 2 - FOUNDATION TIER
3310U20-1**

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.

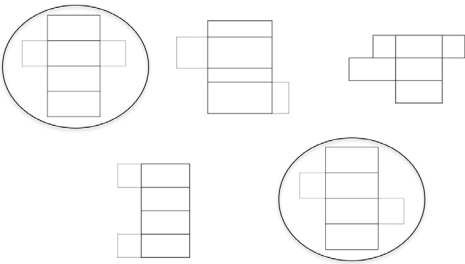
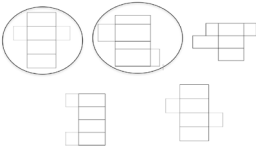
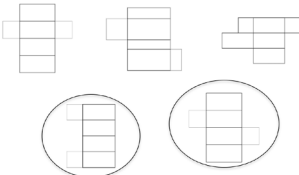
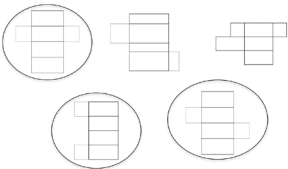
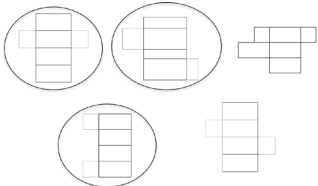
It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

WJEC GCSE MATHEMATICS - NUMERACY

AUTUMN 2019 MARK SCHEME

[illegible]

2 (d) 	B2	Award B1 for 1 or 2 correct nets indicated with no more than 1 incorrect net indicated E.g. Award B1  or  or  Award B0 for 
--	-----------	--

3.(a) Full explanation including appropriate calculation referring to kg ↔ lb conversion e.g. "(Tili is heavier because) 22lb is (about) 10kg" "(Tili is heavier because) 14.5kg is (about) 31.9lb" "14.5 kg is more than 29lbs because a kg is more than 2 lbs". "since 1 kilogram is more than 2 pounds, then 22lbs is less than 11kg"	E2	Allow E1 for partial explanation e.g. "... (because 1kg is about) 2.2 lb" "..... (because 1lb is about) 0.4(5....) kg" "..... because 1 kilogram is more than 2 pounds" "22lb is about 11kg" Allow E1 for sight of $22 \div 2.2$ or 14.5×2.2 but not calculated Do not accept "kg is heavier than lb" ".... because 1kg is more than 1lb"
3.(b) (i) 600(g)	B2	Accept 0.6(00) kg B1 for sight of 250(g) AND 350(g) Mark final answer
3.(b) (ii) ✓ For sight of 18 000 (g) OR 0.6(00) kg 18 000 ÷ 600 OR 18 ÷ 0.6 or equivalent 30 (days)	B1 M1 A1	FT from (b)(i) for possible B1M1A1 FT 'their 600' ÷ 1000 FT 'their 18 000' ÷ 'their 600' or 18 ÷ 'their 0.6' Allow M1A0 18 ÷ 600 Award M1 for evidence of working with multiples of 600 with a target of reaching 18 000 e.g. 600, 1200, 1800.... Answer must be correct on FT from (b)(i) and from correct workings
4.(a) 36 minutes	B1	
4.(b) Ten thousand, five hundred (and) thirty eight	B1	
4.(c) ✓ Identifying 2252 steps in the table (Number of steps = 10538 – 2656) = 7882 (steps) (Number of miles =) 7882 ÷ 2252 or equivalent = 3.5 (miles) or 3½ (miles)	B1 B1 M1 A1	May be implied in later working May be identified in the table (must be explicit) FT 'their 7882' ÷ 'their 2252' Allow sight of $3 \times 2252 = 6756$ OR $4 \times 2252 = 9008$ for M1 Award M0 for $10538 \div 2252$ OR $2656 \div 2252$ Accept embedded answers $3.5 \times 2252 = 7882$ Accept answers correct to 1 d.p rounded or truncated on FT
<i>Alternative method</i> <i>Identifying 2252 steps in the table</i> $10\,538 \div 2252 - (2656 \div 2252)$ $(= 4.679..... - 1.179.....)$ = 3.5 (miles) or 3½ (miles)	<i>B1</i> <i>M2</i> <i>A1</i>	<i>May be implied in later working</i> <i>May be identified in the table (must be explicit)</i> <i>M2 for complete method</i>

5. 0.64×125 or $(100 \times) 78/125$ 80 (marks) or 62(.4%) Conclusion e.g. 'Paulo (as $64\% > 62.4\%$)', 'Paulo (as $80 > 78$)', 'Paulo (sight of $\frac{78}{125}$ and $\frac{80}{125}$)	M1 A1 A1	Accept equivalent complete non calculator methods Allow $64\% \times 125$ but do not accept 64% of 125 for M1 (unless 80 marks seen, in which case M1 A1) Accept sight of 0.62(4) Accept sight of 80/125 for M1, A1 FT depends on M1 previously awarded If working with both Ceri and Paulo, with one correct and one incorrect, mark the correct method, i.e. possible M1, A1, but must be final A0 whatever conclusion is given
6(a) 4, 6 and 16 in this order	B2	Answers in the table take precedence B1 for any 2 correct entries
6(b) 38 bottles	B1	
6c) $30 \times 2 \div 12$ or $30 \times 1.5 \div 9$ or $30 \div 6$ or equivalent 5	M1 A1	Accept an embedded 5 for M1 A1, provided it is not contradicted by their choice of final answer, in which case award M1 A0, e.g. $12 \times 5 = 60$ salmanazars M1 A0 $9 \times 5 = 45$, 9 salmanazars, M1 A0 $9 \times 5 = 45$, M1 A1 $12 \times 5 = 60$, M1 A1
7., ..., 17, 18, 18 as the three eldest 10, 12, ..., ..., ..., as the two youngest (Mean) $(10+12+17+18+18) \div 5$ or $75 \div 5$ (-2) (Coleen is) 13 (years old)	B1 B1 M1 A1	Must be eldest but not necessarily in order Must be youngest but not necessarily in order FT 'their 18 (eldest)' – 8 and 'their 18 (eldest)' – 6 respectively If B0, B0 award SC1 here for sight of 18, 18 provided not other repeat ages FT 'their $10 + 12 + 17 + 18 + 18 \div 5$, provided it is a sum of 5 values divided by 5 FT 'their $75 \div 5$' – 2 correctly evaluated, accepting rounded or truncated age,
8(a)(i) $33 \times 6/11$ or $6 \times 33 \div 11$ 18 (friends)	M1 A1	ISW Allow: 18 friends 12 dogs for M1 A1 - sight of 18/33 for M1 A0 18 12 for SC1
8(a)(ii) $\frac{2}{3} \times \frac{6}{11}$ or $\frac{2}{3} \times \frac{18}{(33)}$ $\frac{36}{99}$ or $\frac{12}{33}$ or $\frac{4}{11}$	M1 A1	FT 'their 18' $2/3 \times 18$ leading to an answer of 12 or a final answer of 12 implies M1 ISW If no marks, award SC1 for sight of 12/18
8(b) 21 : 13 : 6	B1	Mark final answer Allow 21 dogs : 13 cats : 6 fish Do not accept 21 dogs 13 cats 6 fish

9(a)	1 : 1 000 000	B1																		
9(b) (Average speed in km/h =) $\frac{22}{25/60}$ or $\frac{22}{25} \times 60$ or $\frac{22}{25 \div 60}$ 52.7 (km/h) to 53 (km/h)	M2 A1	Allow M2 for sight of correct method, including premature approximation (e.g. using $25/60 = 0.4(166\dots)$ M1 for any one of: - sight of $22 / (0.)25$ - sight of $22 \div (0.)25$ - for answer of 0.88 (km/min) - for answer of 88 Treat use of 2.2 instead of 22 as MR-1 on accuracy mark only																		
10(a) Descriptions of no correlation, e.g. 'no relationship', 'no correlation', 'none', 'no connection'	B1	Allow, e.g. 'no' Do not accept, e.g. '(all) scattered (about)' 'random', 'neutral', 'no pattern', 'varied correlation', 'mixed correlation' Allow if a correct response is given with one of the phrases listed above. Do not allow a correct response with an incorrect response, e.g. 'none but slightly positive'																		
10(b) <table><tr><td>Name</td><td>Height (cm)</td><td>Number</td></tr><tr><td>Gwenda</td><td>145</td><td>88</td></tr><tr><td>Daniel</td><td>166</td><td>88</td></tr><tr><td>Lotte</td><td>130</td><td>90</td></tr><tr><td>Iona</td><td>171</td><td>66</td></tr><tr><td>Steffan</td><td>171</td><td>24</td></tr></table>	Name	Height (cm)	Number	Gwenda	145	88	Daniel	166	88	Lotte	130	90	Iona	171	66	Steffan	171	24	B4	All entries correct B3 for any 8 or 9 entries correct B2 for any 5, 6 or 7 entries correct B1 for any 3 or 4 entries correct Penalise -1 only if entries are consistently reversed in the table
Name	Height (cm)	Number																		
Gwenda	145	88																		
Daniel	166	88																		
Lotte	130	90																		
Iona	171	66																		
Steffan	171	24																		

11(a) (Buy 1 get 1 free, cost of 3 pizzas) (£)17.6(0) (35% off 3 pizzas) $3 \times 8.8(0) - 0.35 \times 3 \times 8.8(0)$ or $0.65 \times 3 \times 8.8(0)$ (£)17.16 and selecting '35% off'	B1 M3 A1	M2 for sight of • $0.35 \times 3 \times 8.8(0)$ (= £9.24) or equivalent • $0.65 \times 8.8(0)$ (= £5.72) or equivalent M1 for any of • $3 \times 8.8(0)$ (= £26.40) • $0.35 \times 8.8(0)$ (= £3.08) or equivalent • FT for $3 \times$ 'cost their reduced priced pizza' correctly evaluated provided 'cost their reduced priced pizza' < £8.80 CAO for (£)17.16 with a conclusion, but FT conclusion from 'their £17.60' with (£)17.16 comparison
11(b) Explanation, e.g. '(even number of pizzas gives) 50% off (which is better than 35%)', '50% off (is better than 35% off)', 'with an even number of pizzas he will get half of them free (which is more than 35% free)'	E1	Accept explanation based on a different even number pizzas, including buying 20 getting 10 free Allow, e.g. 'he would (only) pay for 5 pizzas (not 10)', 'half of the pizzas are free' 'he would (only) pay for half the pizzas', 'get 5 pizzas free', 'the more pizzas you get, the better this option is' '2 is an even number and goes into 10 exactly' Do not ignore contradictions