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# **GCSE MARKING SCHEME**

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**SUMMER 2022**

**GCSE  
MATHEMATICS – NUMERACY  
UNIT 1 – FOUNDATION TIER  
3310U10-1**

## **INTRODUCTION**

This marking scheme was used by WJEC for the 2022 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.

## SUMMER 2022 MARKING SCHEME

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3(a) $20 \times (\pounds)3$ OR $19 \times (\pounds)3$ OR $20 \times (\pounds)2.98$  $(\pounds)60$ OR $(\pounds)57$ OR $(\pounds)59.60$	M1  A1	Allow $20 \times (\pounds)2.95$ OR $20 \times (\pounds)2.90$  $(\pounds)59$ OR $(\pounds)58$  Ignore Subsequent working if an estimate is seen
3(b) Overestimate indicated and correct suitable reason given e.g.  'Because 20 is more than 19 and $(\pounds)3$ is more than $(\pounds)2.98$ ' 'Because I rounded 2.98 up to 3' 'Because I rounded it up' 'Rounded 98p to $\pounds 1$ ' 'Rounded it up to the nearest whole number' 'Because I rounded both numbers up' 'Because the real numbers are <b>less</b> than the ones I used' 'Because my bags are 2p more than the party bags' 'There are only 19 bags and I used 20'	E1	Allow 'because you estimate to nearest 10'  FT appropriate judgement based on <b>their estimate</b> seen in (a) e.g., $20 \times (\pounds)2.50$ and underestimate given with reason as '2.50 is less than 2.98', award M0 A0 in (a) and E1 in (b)  Allow statements that only refer to one value being estimated where both values have been rounded up.  Do not accept 'Because I am over the real price'  FT from <b>allowed</b> estimates in part (a) with 'can't tell' and a suitable reason given e.g., 'one is rounded up and the other rounded down.'  If (a) is not attempted but a correct estimate for (a) is seen in (b) with appropriate judgement indicated and correct reason award E1

4(a)(i) Wednesday AND 10:00	B2	<p>Allow Wednesday AND 10:00 – 11:00 or Wednesday AND 10:00 – 12:00</p> <p>Award B1 for:</p> <ul style="list-style-type: none"> <li>• Wednesday</li> <li>• Friday AND 09:00 (-10:00 or – 11:00)</li> <li>• Tuesday AND 14:00 (-15:00 or – 16:00)</li> </ul>
4(a)(ii) $((19 + 2 - 15) \times 8 =)$ OR $((21 - 15) \times 8 =)$ 48	B2	<p>Award B1 for:</p> <ul style="list-style-type: none"> <li>• ('their 19' + 2 – 15) <math>\times</math> 8 correctly evaluated provided 'their 19' &gt; 13 and 'their 19' is seen on the diagram or clearly stated as the hours completed without the extra 2 hours</li> <li>• <math>((19 - 15) \times 8 =)</math> 32</li> <li>• <math>((19 + 1 - 15) \times 8 =)</math> 40</li> <li>• ('their 21' – 15) <math>\times</math> 8 correctly evaluated provided 'their 21' &gt; 15 and 'their 21' is seen on the diagram or clearly stated as the hours completed with the extra 2 hours</li> </ul>
4(b) $4.5 \times 7 + 6$ 37.5 (litres)	M1 A1	
4(c) 4500	B1	
4(d) 6(cm) ( $\pm 2$ mm)  6 $\times$ 0.4 (m)  No AND 2.4 (metres) shown	B1  M1  A1	<p>(5.8 (cm) to 6.2(cm)) May be seen or indicated on the diagram or from workings.</p> <p>FT 'their 6' seen or indicated <math>\times</math> 0.4 (m) where 'their 6' is between 3 and 9 inclusive.</p> <p>FT their <b>correctly evaluated</b> 2.4 metres compared with 2.3 metres provided M1 awarded eg <math>5 \times 0.4</math> (m) = 2(m) and Yes indicated</p> <p>Answer only of 2.4 (m) and any of the measurements below with No indicated gets B1 M1 A1</p> <p>Measurement of:  5.8 cm gives 2.32 m  5.9 cm gives 2.36 m  6 cm gives 2.4 m  6.1 cm gives 2.44 m  6.2 cm gives 2.48 m</p> <p><b>If no workings shown</b> and answer not from the list above, award SC1 for:</p> <ul style="list-style-type: none"> <li>• 2m, 2.04m, 2.08m, 2.12m, 2.16m, 2.2m, 2.24m, 2.28m and YES</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• 2.52m, 2.56m, 2.6m, 2.64m, 2.68m, 2.72m, 2.76m, 2.8 and NO</li> </ul> <p>(These values come from 5cm to 5.7cm and 6.3cm to 7cm)</p> <p>OR</p> <ul style="list-style-type: none"> <li>• 2.5m and NO</li> </ul>

5(a) Gayle	B1	Do not accept 8.46 but accept Gayle and 8.46								
5(b) 7.03	B1	Check the scoreboard								
5(c) 7.95 – 6.31 or 795 - 631  1.64(m) or 164 (cm)	M1 A1	Allow any indication of attempting to find the difference between 7.95 and 6.31 If units are given they must be correct								
5(d) <table border="1"><tr><td>Position</td><td>Name</td></tr><tr><td>1<sup>st</sup></td><td>Gayle</td></tr><tr><td>2<sup>nd</sup></td><td>Henderson</td></tr><tr><td>3<sup>rd</sup></td><td>Echevarria</td></tr></table>	Position	Name	1 <sup>st</sup>	Gayle	2 <sup>nd</sup>	Henderson	3 <sup>rd</sup>	Echevarria	B1	Ignore any measurements given with the names
Position	Name									
1 <sup>st</sup>	Gayle									
2 <sup>nd</sup>	Henderson									
3 <sup>rd</sup>	Echevarria									
6(a) £3.80	B1									
6(b) 4 hours 20 minutes	B3	For B2 or B1, allow costs seen within repeated additions linked with the appropriate time  B2 for sight of any of the following: <ul style="list-style-type: none"><li>• 260 minutes</li><li>• £5.40 for 4 hours or for 240 minutes</li><li>• ((£5.80 - £3) ÷ 40p =) 7 seen or implied <b>with</b> 7 lots of 20 minutes considered</li><li>• 140 (minutes) (= 2 hours 20 minutes)</li><li>• a final answer of 2 hours 20 minutes in the answer space</li></ul> B1 for sight of any of the following: <ul style="list-style-type: none"><li>• £4.20 for 3 hours or 2 hours 60 minutes, allow for 2.60</li><li>• (£5.80 - £3) = £2.80</li><li>• (£5.80 - £3) ÷ 40p (= 7)</li><li>• ((£5.80 - £3) ÷ 40p =) 7 allow for 7 provided it is <b>not</b> from incorrect working, it should be derived from 7 lots of 40p on to the £3, e.g. 7 lots of 40p. Ignore further incorrect working once awarded, such as an answer of 7 hours</li></ul>								
7(a) 130 ≤ energy < 140	B1	Accept unambiguous indication, e.g. 130 – 140 Allow e.g. '130,140', '130 140' Do not accept the values 130, 140, 18 or a choice between the group and the frequency								
7(b) Total of 37 (energy bars) $\frac{1 + 4 + 12}{37}$  $\frac{17}{37}$	B1 M1  A1	FT 'their 37' provided > 'their 1+4+12' Also allow <b>one</b> error in misreading 1 frequency, which impacts consistently on 'their denominator' and possibly 'their numerator'  Only FT 'their 37' provided <ul style="list-style-type: none"><li>• 'their 37' is 36 or 38 or 39</li></ul> or <ul style="list-style-type: none"><li>• 'their 37' is clearly from an addition error in calculating 1 + 4 + 12 + 18 + 2</li></ul> ISW for incorrectly simplifying their fraction								

<p>7(c) <math>(100 \times) \frac{2}{18 + 2}</math> or <math>(100 \times) 1 - (100 \times) \frac{18}{18 + 2}</math></p> <p>10 (%)</p>	<p>M1</p> <p>A1</p>	<p>FT any repeated misread of the scale from (b)</p> <p>Award 2 marks for an answer of 10(%) unless from incorrect working</p>
<p>8(a) <math>100 \times 720 \div 360</math> or <math>260 \times 720 \div 360</math> or for sight of 1° is 2 bags</p> <p>200 (large bags sold) and 520 (small bags sold)</p> <p>(Total sales) <math>200 \times (\pounds)1(. )80 + 520 \times 80(p)</math> (= <math>\pounds 360 + \pounds 416</math>)</p> <p>(£) 776</p>	<p>M1</p> <p>A2</p> <p>M1</p> <p>A2</p>	<p>A1 for 200 (large bags) or 520 (small bags) or for 'their number of large bags' + 'their number of small bags' = 720</p> <p>Ignore incorrect units stated, mark intention Or equivalents all in p or all in £ Accept equivalent <math>720 \times 80p + 200 \times (\pounds)1</math> FT for 'their 200 large bags' <math>\times (\pounds)1.80</math> and 'their 520 small bags' <math>\times 80p</math>, provided 'their 200' <math>\geq 50</math> and 'their 520' <math>\geq 130</math>, 'their 520' <math>\neq</math> 'their 200' and both are whole numbers</p> <p>CAO A1 for either</p> <ul style="list-style-type: none"> <li>a correctly evaluated sum with one correct evaluation of a product or</li> <li>on <b>FT</b> for the correct evaluation of 'their smaller value' <math>\times (\pounds)1.80 +</math> 'their larger value' <math>\times 80p</math> For example <math>100 \times (\pounds)1.80 + 260 \times 80p = \pounds 388</math> is awarded M0 A0 M1 A1</li> </ul> <p>If initial M1, A2 awarded also award SC1 for one of the following seen:</p> <ul style="list-style-type: none"> <li><math>200 \times 80(p) + 520 \times (\pounds)1.80 = (\pounds)1096</math></li> <li><math>\pounds 360</math> <b>and</b> <math>\pounds 416</math> (no method mark as not added)</li> </ul> <p>If no marks, award SC1 for sight of 260(°)</p>
<p>8(b) Method to compare, e.g.</p> <ul style="list-style-type: none"> <li>(Small bag per kg) <math>2.5 \times 80</math> or <math>80 \times 1000 \div 400</math></li> <li>(Per 100g) small <math>80p \div 4</math> and large <math>\pounds 1.80 \div 10</math></li> <li>(g per penny) <math>400 \div 80</math> and <math>1000 \div 180</math></li> <li>(Per 200g) <math>80p \div 2</math> and <math>\pounds 1.80 \div 5</math></li> <li>(Per 2000g) <math>5 \times 80p</math> and <math>2 \times \pounds 1.80</math></li> <li>(Large bag per 400g) <math>\pounds 1.80 \times 0.4</math></li> </ul> <p>Accurate comparison calculation, e.g.</p> <ul style="list-style-type: none"> <li>(Small bag per kg) £2</li> <li>(Per 100g) small 20p and large 18p</li> <li>(g per penny) small 5g and large 5.5(5...) or 5.6g</li> <li>(Per 200g) small 40p and large 36p</li> <li>(Per 2000g) small £4 and large £3.60</li> <li>(Large bag per 400g) 72p</li> </ul> <p><b>AND</b> Conclusion, Large bag (better value)</p>	<p>M1</p> <p>A1</p>	<p>Needs to show comparing like quantity with like</p> <p>If units are given they must be correct</p>

9(a) 18 (g)	B1	
9(b) $15 - 12.5$ or $5 \times 0.5$ 2.5 (cm)	M1 A1	
9(c) Sight of 20 (cm) (Wingspan in inches is) $12 \times 20 \div 30$ or $20 \times 0.4$ 8 (inches)	B1 M1 A1	Allow $20 \div 2.5$ or equivalent CAO
9(d) Positive (correlation)	B1	Do not accept a description
9(e) An answer in the inclusive range 18.5 (cm) to 22.5 (cm)	B1	
10. $420 - 420 \times 35 \div 100$ (= 420 – 147) or $(100 - 35) \times 420 \div 100$  or equivalent 273 (people)	M2   A1	M1 for any one of <ul style="list-style-type: none"> <li><math>420 \times 35 \div 100</math></li> <li>sight of <math>42 + 42 + 42 + \frac{1}{2}</math> of 42</li> <li>sight of 147</li> </ul>