



GCSE MARKING SCHEME

SUMMER 2023

**GCSE
MATHEMATICS – COMPONENT 1
(FOUNDATION TIER)
C300U10-1**

INTRODUCTION



This marking scheme was used by WJEC for the 2023 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.

EDUQAS GCSE MATHEMATICS

SUMMER 2023 MARK SCHEME

Component 1: Foundation Tier	Mark	Comment
1(a)(i) 700	B1	
1.(a)(ii) 65 000	B1	
1.(a)(iii) -5	B1	
1.(b) 79	B1	
1.(c)(i) 13	B1	
1.(c)(ii) 24	B1	
1.(c)(iii) 49	B1	
1.(d) $\frac{2}{5}$	B2	Mark final answer. B1 for sight of an equivalent fraction to 0.4 not written in its simplest form e.g. $\frac{4}{10}$
	(9)	
2.(a)(i) Unlikely indicated	B1	
2.(a)(ii) Even chance indicated	B1	
2.(b)(i) 	B1	Diagram takes precedence.
2.(b)(ii) 	B1	Diagram takes precedence.
	(4)	
3.(a) (-5, 3)	B1	
3.(b) Point plotted at (-1, -4)	B1	
3.(c) 8 × 50 oe 400 (m)	M1 A1	Mark final answer. If units are seen they must be correct. If no marks, award SC1 for (7 × 50 =) 350 or (9 × 50 =) 450.
	(4)	

4.(a)(i) <table border="1" data-bbox="220 206 673 689"> <thead> <tr> <th>Trousers</th> <th>Top</th> <th>Trainers</th> </tr> </thead> <tbody> <tr><td>B</td><td>W</td><td>P</td></tr> <tr><td>B</td><td>W</td><td>Y</td></tr> <tr><td>B</td><td>R</td><td>P</td></tr> <tr><td>B</td><td>R</td><td>Y</td></tr> <tr><td>G</td><td>W</td><td>P</td></tr> <tr><td>G</td><td>W</td><td>Y</td></tr> <tr><td>G</td><td>R</td><td>P</td></tr> <tr><td>G</td><td>R</td><td>Y</td></tr> </tbody> </table>	Trousers	Top	Trainers	B	W	P	B	W	Y	B	R	P	B	R	Y	G	W	P	G	W	Y	G	R	P	G	R	Y	B2	For B2 complete table with no errors or repeats except of the first two rows. B1 for any 4 or 5 correct rows (of the remaining 6 rows), ignoring any repeated rows or incorrect rows. NB order of rows may be different
Trousers	Top	Trainers																											
B	W	P																											
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G	W	P																											
G	W	Y																											
G	R	P																											
G	R	Y																											
4.(a)(ii) $\frac{1}{8}$ ISW or 0.125 or 12.5%	B1	FT 'their table' providing at least B1 awarded; B0 for 1 : 8 or 1 out of 8.																											
4.(b)(i) Correct method to find the number of minutes si e.g. $17 + 18$ $7 + 10 + 10 + 8$ $60 - 43 + 18$ 35 (minutes)	M1 A1																												
4.(b)(ii) 1.2×4 or $1.2 \div 1/4$ oe 4.8 (km/h)	M1 A1	Allow a method to calculate speed in any unit e.g. $1.2 \div 15$ or $1200 \div 15$.																											
4.(b)(iii) 4.5(0 km) oe	B2 (9)	B1 for $(10 - 1) \div 2$ oe																											

5.(a) Any decimal between 0.61 and 0.62 exclusive	B1	
5.(b) Converts each score to a common form to enable comparison e.g. $\left(\frac{18}{25} = \right) \frac{72}{100}$ and $\left(\frac{14}{20} = \right) \frac{70}{100}$ OR $72(\%)$ and $70(\%)$ OR 0.72 and $0.7(0)$ OR two correct amounts for a comparison First test or $\frac{18}{25}$ indicated, with sight of both scores converted to a common form.	B2 B1	B1 for an attempt to convert <u>both</u> scores to a common form STRICT FT 'their pair of values' provided B1 awarded. Award B0 B0 for an unsupported correct answer of first test.
	(4)	
6.(a) $5n$	B2	B1 for sight of one of the following: <ul style="list-style-type: none"> $3n$ $5 \times n$ $n \times 5$ $n + n + n + n + n$ oe
6.(b) (0).9(00 kg)	B2	B1 for either: <ul style="list-style-type: none"> sight of 900 a correct conversion of 'their 4.5×200' to kg
	(4)	
7.(a) 2 cm by 8 cm rectangle drawn	B2	Allow a good freehand for B2 or B1. B1 for one of the following: <ul style="list-style-type: none"> a rectangle/square with a perimeter 20 cm a rectangle/square with an area of 16 cm^2 a rectangle drawn incorrectly but labelled as 2cm and 8cm. If more than one rectangle is drawn and no answer indicated then, as this is a choice, mark the worst.
7.(b)(i) 16 (cm)	B1	
7.(b)(ii) 1 : 2	B1	Must be fully simplified. FT 8 : 'their 16' provided this can be simplified.
	(4)	
8.(a) 175	B2	B1 for sight of either: <ul style="list-style-type: none"> 7×25 35×5
8.(b)(i) $4 \times (3 - 1) + 6 = 14$	B1	
8.(b)(ii) $\sqrt{36} \div (2 + 1) = 2$	B1	
	(4)	

9.(a) $42 \div 3$ (£)14(.00)	M1 A1	
9.(b) $(120 \div 8) \times 12$ or $(120 \div 2) \times 3$ or $120 + (120 \div 2)$ oe (£)180(.00)	M1 A1	
9.(c) $(18 \div 100) \times 2$ oe (£)0.36 or 36(p) ISW	M1 A1	If no marks award SC1 for 1% is 18(p) oe If units are given they must be correct, but condone use of both £ and p e.g. £0.36p. If no marks, award SC1 for an unsupported (£)18.36.
	(6)	
10.(a) -6, -3, 0	B2	B1 for any two correct.
10.(b) Correct line drawn from $x = -2$ to $x = 2$	B2	B1 for either: <ul style="list-style-type: none"> a correct line drawn but not over full domain. 5 points plotted correctly. FT 'their table'.
	(4)	
11.(a) $342 + \frac{342}{10} \times 2$ oe, si (£)410.4(0)	M2 A1	M1 for $\frac{342}{10} \times 2$ oe (= £68.4(0))
11.(b) $57 \times 6 \div 3$ oe, si (£)114(.00)	M2 A1	M1 for one of the following: <ul style="list-style-type: none"> $57 \times 6 (= 342)$ $57 \div 3 (= 19)$ $\frac{1}{4}$ is 2 payments $\frac{3}{4}$ is 6 payments
	(6)	
12.(a) Valid explanation with comparison or correct use of more/less e.g. <ul style="list-style-type: none"> 'The price per 100g should be 40p'. 'The flapjacks would cost £10 if they cost £4 per 100g'. 'For £4 I should get 1000 g of flapjacks'. '250g is more than £1 because its £4 per 100g'. 'If £4 for 100g then 250g should cost more than £1'. 'The shop meant to put 25g not 250g'. '100g should be less than the supermarket's price as they sell 250g for £1'. 	E1	If calculations are given, they must be correct. Allow 'The price per 100g is far too high .' Do not allow 'It says 250g for £1 so it can't be 100g for £4'.

<p>12.(b) Method to find both unit costs e.g.</p> <ul style="list-style-type: none"> • $150 \div 5$ (cost for 10 biscuits) and $96 \div 3$ (cost for 10 biscuits) <p>OR</p> <ul style="list-style-type: none"> • 150×3 (cost for 150 biscuits) and 96×5 (cost for 150 biscuits) <p>OR</p> <ul style="list-style-type: none"> • $150 \div 50 \times 30$ (cost for 30 biscuits) oe <p>OR</p> <ul style="list-style-type: none"> • $96 \div 30 \times 50$ (cost for 50 biscuits) oe <p>Correct unit costs e.g.</p> <ul style="list-style-type: none"> • 30p and 32p (per 10 biscuits) OR • £4.50 and £4.80 (per 150 biscuits) OR • 90(p for 30 biscuits) OR • 160(p for 50 biscuits) <p>AND 50 biscuits indicated.</p>	<p>M2</p> <p>A1</p>	<p>Calculations may be in pounds or pence.</p> <p>Accept alternative convincing methods e.g. $50 \div 150$ and $30 \div 96$ (biscuits per penny)</p> <p>M1 for attempting to find the cost of a common factor/multiple of biscuits for <u>either</u> pack e.g.</p> <ul style="list-style-type: none"> • $150 \div 5$ • $96 \div 3$ • 150×3 • 96×5 • $150 \div 50$ • $96 \div 30$ <p>Or M1 for $50 \div 150$ OR $30 \div 96$</p> <p>Allow for e.g. 3 (p per biscuit) and 3 r 6 (p per biscuit) AND 50 biscuits indicated. If units are given, they must be correct.</p>
(4)		
<p>13.(a)(i) 10.74</p>	<p>B2</p>	<p>B1 for either:</p> <ul style="list-style-type: none"> • an attempt to subtract correct place values in $12.10 - 1.36$ e.g. an answer with 4 in the 2nd decimal place • a correct method with at most one error in their subtraction. <p>B0 for errors in place value.</p>
<p>13.(a)(ii) 0.24</p>	<p>B1</p>	
<p>13.(a)(iii) $\frac{5}{12}$ oe</p>	<p>B2</p>	<p>B1 for one of the following:</p> <ul style="list-style-type: none"> • sight of $2/12$ • conversion of <u>both</u> fractions to a common denominator, allowing one slip in the numerator • $3 \cdot 5/6 - 1/6 = 2 \cdot 5/6$ (full calculation)
<p>13.(b) 156.5</p>	<p>B2</p>	<p>B1 for 15.65 or 1565.</p>
(7)		
<p>14.(a) $10800 \div 9$ OR $10800 \div 48$ 1200 OR 225 $1200 \div 48$ OR $225 \div 9$</p>	<p>M1</p> <p>A1</p> <p>m1</p>	<p>CAO</p> <p>FT 'their 1200' OR 'their 225'</p>
<p>25 (necklaces) <u>Alternative method</u> 48×9 432 $10800 \div 432$ 25 (necklaces)</p>	<p>A1</p> <p>M1</p> <p>A1</p> <p>m1</p> <p>A1</p>	<p>FT</p> <p>CAO</p> <p>FT 'their 432'</p> <p>FT</p>

<p>14.(b) 246 × 54</p> <p>13284</p> <p>13284 – 10800</p> <p>(£)2484</p>	<p>M1</p> <p>A1</p> <p>m1</p> <p>A1</p> <p>(8)</p>	<p>CAO</p> <p>FT 'their 246 × 54' providing greater than 10800</p> <p>FT</p>
<p>15. No indicated and two distinct valid reasons based on sample size/time/location/bias. e.g.</p> <ul style="list-style-type: none"> 'She needs to ask more than 15 people'. 'She needs to vary the time that she asks people, not just go to one meeting'. 'People at the drama group will probably go more often'. 	<p>E2</p> <p>(2)</p>	<p>No may be clearly implied by two valid reasons without contradiction.</p> <p>E1 for either:</p> <ul style="list-style-type: none"> one valid reason, two valid reasons, but with Yes indicated. <p>Allow E2 if two reasons are stated in one answer space, with the second answer space blank or containing a non-contradictory reason.</p> <p>Allow</p> <ul style="list-style-type: none"> 'she's only asking 15 people', 'she's only asking people in her drama group', 'maybe not everyone in her drama group is from her town'. <p>Do not allow 'she hasn't asked everyone in her town'.</p>
<p>16. Finds the number of slabs for the length <u>and</u> width of the pond</p> <p>(Number of slabs = 5 + 7 + 5 + 7 + 4 =) 28</p> <p>28 ÷ 4 × 3 OR 28 ÷ 4 (× 1)</p> <p>21 grey and 7 white si</p> <p>5 × 21 + 6 × 7</p> <p>(£)147</p>	<p>S1</p> <p>B1</p> <p>M1</p> <p>A1</p> <p>m1</p> <p>A1</p> <p>(6)</p>	<p>May be implied by 5 slabs or 7 slabs correct</p> <p>FT 'their 28' if a multiple of 4.</p> <p>CAO</p> <p>FT 'their 21' and 'their 7'</p> <p>CAO</p> <p>Award S1 B0 M1 A0 m1 A0 SC1 for a final answer of £126.</p>
<p>17.* 140 + 180 or 360 – 40</p> <p>320°</p>	<p>M1</p> <p>A1</p> <p>(2)</p>	
<p>18.*(a)</p> <p>$\frac{7}{15}$</p>	<p>B1</p>	<p>Accept equivalent fractions.</p>

18.(b) $\frac{60}{15} \times 3$ or $\frac{60}{15} \times 5$ or $\frac{60}{15} \times 7$ si 12 (cm), 20 (cm), 28 (cm)	M1 A1	FT 'their 3 + 5 + 7' from (a). FT. Two correct answers imply M1. May be seen in any order.												
	(3)													
19.*(a) 2	B2	B1 for sight of two correct consecutive terms from the sequence 11, 13, 15, 17, ...												
19.(b)(i) $n < 45$ oe	B2	B1 for either: <ul style="list-style-type: none"> $2n < 99 - 9$ oe $n < k/2$, where k is a constant. Use of '=' is B0 unless finally replaced												
19.(b)(ii) 44	B1	FT 'their 45' - 1												
	(5)													
20.* $65 \times 0.8(0)$ oe (£)52 $52 \times 1.2(0)$ oe (€)62.4(0) and online indicated	M1 A1 M1 A1	FT 'their $65 \times 0.8(0)$ ' <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Airport</th> <th>Online</th> </tr> </thead> <tbody> <tr> <td>£</td> <td>52</td> <td>50</td> </tr> <tr> <td>\$</td> <td>65</td> <td>62.5(0)</td> </tr> <tr> <td>€</td> <td>62.4(0)</td> <td>60</td> </tr> </tbody> </table>		Airport	Online	£	52	50	\$	65	62.5(0)	€	62.4(0)	60
	Airport	Online												
£	52	50												
\$	65	62.5(0)												
€	62.4(0)	60												
<u>Alternative method 1</u> $65 \times 0.8(0)$ oe (£)52 $60 \div 1.2(0)$ oe (£)50 and online indicated	M1 A1 M1 A1													
<u>Alternative method 2</u> $60 \div 1.2(0)$ oe (£)50 $50 \div 0.8(0)$ oe (\$)62.5(0) and online indicated	M1 A1 M1 A1	FT 'their $60 \div 1.2(0)$ '												
	(4)													

<p>23.* Sight of 70% and 5×10^8 OR 71% and 5×10^8 OR 70% and 5.1×10^8</p> <p>$0.7 \times 5 \times 10^8$ oe OR $0.71 \times 5 \times 10^8$ oe OR $0.7 \times 5.1 \times 10^8$ oe</p> <p>3.5×10^8 (km²) ISW OR 3.55×10^8 ISW OR 3.57×10^8 ISW</p>	<p>B1</p> <p>M1</p> <p>A1</p>	<p>Not for sight of 71% and 5.1×10^8</p> <p>Allow for $0.71 \times 5.1 \times 10^8$ If 5×10^8 or 5.1×10^8 is written in ordinary form, condone a slip by a power of 10 for M1. e.g. 0.7×50000000</p> <p>CAO</p> <p>Award B1 M1 A1 for an unsupported answer of 3.5×10^8 (km²).</p>
(3)		
<p>24.* $\frac{2}{8} \times \frac{2}{8}$ or $\frac{1}{4} \times \frac{1}{4}$</p> <p>$\frac{4}{64}$ or $\frac{1}{16}$ ISW</p>	<p>M1</p> <p>A1</p>	
(2)		
<p>25.*</p> <p>$4a + c = 9.5(0)$ AND $5a + 2c = 13$ oe</p> <p>Method to eliminate an unknown e.g.</p> <p>equal coefficients and subtraction or</p> <p>rearranges one equation and substitutes into the other</p> <p>Finds one unknown</p> <p>Finds the other unknown</p> <p>(£)9(.00) or 900(p)</p>	<p>B1</p> <p>M1</p> <p>A1</p> <p>A1</p> <p>B1</p>	<p>Allow other letters or words throughout. Values may be in pence throughout</p> <p>FT their equations provided one is correct and the other is linear in the same pair of unknowns.</p> <p>Allow one error in one term, not in the equated coefficients.</p> <p>Allow one error in rearrangement but not substitution.</p> <p>CAO; $a = 2$ or $c = 1.5(0)$</p> <p>FT 'their a' or 'their c' used in one of their equations.</p> <p>Provided at least <u>two</u> of the previous four marks awarded, FT 3('their derived a') + 2('their derived c')</p> <p>If units are given, they must be correct.</p> <p><u>For candidates that are awarded B1 and use trials to find the values of a and c, award SC2 for a final answer of (£)9(.00) or 900(p).</u></p>
(5)		