GCSE MARKING SCHEME

SUMMER 2024

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

About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.

This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

WJEC GCSE MATHEMATICS - NUMERACY

SUMMER 2024 MARKING SCHEME

Unit 1: Foundation Tier	Mark	Comments
1(a) (Total cost of individual membership) 380 × 2 + 170 × 2 or equivalent (£)1100 (Amount saved) 1100 – 920 (£)180	 M1 A1 M1 A1	 May be seen in stages FT 'their derived 1100' provided > than 920 If no marks awarded, award SC1 for 760 and 340 seen (not added)
1(a) Alternative method 1: Subtraction method *£920 – £170 – £170 – £380* *= £200* *£380 – £200* *= £180.*	 *M1* *A1* *M1* *A1*	 *FT 380 – 'their 200' provided M1 previously awarded*
1(a) Alternative method 2: Subtraction method *£920 – £170 – £380 – £380* *= – £10 OR is £10 more than the family membership* *£170 + £10* *= £180.*	 *M1* *A1* *M1* *A1*	 *FT 170 + 'their 10' provided M1 previously awarded*
1(a) Alternative method 3: Subtraction method *£920 – £170 – £170* *= £580* *£380 + £380 – £580* *= £180.*	 *M1* *A1* *M1* *A1*	 *FT 380 + 380 – 'their 580' provided M1 previously awarded*
1(a) Alternative method 4: Subtraction method *£920 – £380 – £380* *= £160* *£170 + £170 – £160* *= £180.*	 *M1* *A1* *M1* *A1*	 *FT 170 + 170 – 'their 160' provided M1 previously awarded*
Full subtraction method that would lead to an answer of £180 *Correct answer of £180*	*M2* *A2*	Award M1 for sight of at least 2 values subtracted Award A1 for answer from 1 error only.
Organisation and communication 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.

Unit 1: Foundation Tier	Mark	Comments
1(b)(i) 11 × 20 220 (calories)	M1 A1	
1(b)(ii) 360 ÷ 12 30 (minutes)	M1 A1	Allow 12 ÷ 360 written if the intention is 360 ÷ 12 e.g. counting up in 12s to at least 3 × 12 For 360 ÷ 12 not seen but counting up in 12s seen award M1 for the sight of ≥180
1(c) An acute angle	B1	
1(d) **No** indicated or unambiguously implied and correct reason given, e.g. 'Because it is not the most popular class' 'As step is the modal fitness class' 'Because yoga doesn't have the highest frequency' 'Because the most popular fitness class is step' 'Because other classes have more people in them' 'Because the number of people attending step class is higher' 'Because step is the most common class' 'Because circuits has more people attending'	E1	Allow, e.g. 'It should be step' 'It's not the highest number' 'It's not the biggest' 'Because there are others with more' 'Because it's step' 'More people do circuits' 'The steps have 12 more than yoga' 'Step does 96 people' Do not accept 'No, because it's not in the middle of highest number and the lowest number'
1(e) (Area of tiles) Evidence of counting squares **within** the shape Area in range 31 - 38 (cm^2 or m^2) 'Their area' × 30 Correct cost for their area	M1 A1 M1 A1	Look at diagram Allow M1 for area within and some of the squares outside If no evidence of counting squares, award M1 if answer for area is in the range 22 – 40 Award M0 if clearly working with perimeter Number of squares in range with no evidence of counting award M1 A1 FT 'their area' × 30
1(e) <u>Alternative method</u> *(Area of tiles) Evidence of counting squares **within** the shape **and** counting up in 30s* *Answer in the range (£)930 – (£)1140*	*M2* *A2*	*If no evidence of counting squares, award M1 for evidence **of counting up in 30s** to at least 300* *If A2 not awarded, award A1 for answer in the range (£)660 – (£)1200*

Unit 1: Foundation Tier	Mark	Comments
1(f) 9(cm) (±2mm) 9 × 50 (÷100) 4.5 (metres)	B1 M1 A1	(8.8 (cm) to 9.2(cm)) FT 'their 9' provided it has come from a measurement of the height or length of the van, and is ≥ 3(cm) Answer must be in metres only. Answer line takes precedence E.g. For an answer of 4m 50cm or 450cm using 9cm award B1 M1 A0 Measurements of: 8.8 cm gives 4.4 m 8.9 cm gives 4.45 m 9 cm gives 4.5 m 9.1 cm gives 4.55 m 9.2 cm gives 4.6 m If no marks awarded, award SC1 for an answer in the range 4.3m to 4.7m (but outside 4.4m to 4.6m)

Unit 1: Foundation Tier	Mark	Comments
2(a) (Wednesday) 25th (Thursday) 26th and (Friday) 27th June Or 25(th) to 27(th) June	B3	Look at calendar for indication throughout the question If B3 not awarded: Award B2 for one of the following (for identifying 3 days when they can all go): • 26th June and 27th June only • 25th June and 26th June only • 25th June only • 25th, 26th and 27th without any indication of June For all dates listed below, if the 1st date given and none of the others then award B2 • 3rd, 4th and 5th March • 4th, 5th and 6th March • 19th, 20th and 21st March • 26th, 27th and 28th March • 31st March, 1st and 2nd April • 1st, 2nd and 3rd April • 7th, 8th and 9th April • 8th, 9th and 10th April • 2nd, 3rd and 4th June • 3rd, 4th and 5th June • 18th, 19th and 20th June If B3 or B2 not awarded: Award B1 for any one of the following: • An answer of June with or without dates • Identifying that they cannot go during the Months of May, July **AND** August • Identifying that they can ONLY go March, April **AND** June eg answer of 'March, April or June' • Identifying that they cannot go on any Saturday AND Sunday (allow if not indicated on school holidays) • Identifying that they cannot go on the last 3 Tuesdays **AND** first 2 Fridays of each month Answer line takes precedence but note: If more than one answer is given, mark the response that gains the least credit.

Unit 1: Foundation Tier	Mark	Comments
2(b) (Pier Apartment) (Discount 10% of 250=) (£)25 or (Discount 10% of 500=) (£)50	B1	
2 × 250 – 2 × 25 OR 500 – 50 OR 2 × (250 – 25)	M1	FT 2 × 250 – 2 × 'their derived 25' Or 500 – 'their derived 50'
(Promenade Hotel) (£)110 × 2 × 2 or equivalent	M1	
(£) 450 AND (£)440	A1	FT from B0, M1, M1
Difference of (£)10	B1	FT provided at least one M1 previously awarded and (£)450 OR (£)440 correct with the FT difference correctly evaluated
2(b) Alternative method working initially with 1 night *(Pier Apartment)* *(Discount 10% of 250=) (£)25*	*B1*	*Note: must be clearly working with 1 night initially*
250 – 25	*M1*	*FT 'their derived 25'*
(Promenade Hotel) *(£)110 × 2*	*M1*	
((£)225 - (£)220) × 2 OR (£)5 × 2	*M1*	*FT from B0, M1, M1*
(Difference of) (£)10	*A1*	*FT a difference correctly evaluated provided at least one M1 previously awarded with (£)225 OR (£)220 correct and there has been an attempt to double at least one of the values*
2(c) 24 × 15 or equivalent 360 (cm^2) AND No indicated	M1 A1	Note: 24 × 2 + 15 × 2 = 78 gains M0A0 as working with perimeter

<table>
<tr><th>Unit 1: Foundation Tier</th><th>Mark</th><th>Comments</th></tr>
<tr><td>3. 30 + 3 × 50 + 15</td><td>M2</td><td>May be seen in stages
Award M1 for any one of the following
• 3 × 50
• 150 or 2 hours 30 mins
OR for allowing one omitted or 150 treated incorrectly
• (30 + 15=) 45
• (30 + 15 + 50=) 95 or 1 hour 35 mins
• (30 + 15 + 100=) 145 or 2 hours 25 mins
• (30 + 150=) 180 or 3 hours
• (15 + 150=) 165 or 2 hours 45 mins</td></tr>
<tr><td>3 hours and 15 minutes or 195 (minutes)</td><td>A1</td><td>CAO. Mark final answer.</td></tr>
<tr><td>10:45 (am)</td><td>B1</td><td>FT 2pm – ‘their 3hr 15 mins’ including 15 and/or 30 correctly evaluated</td></tr>
<tr><td><u>3. Alternative method</u>

2pm
– 15 mins correctly evaluated

– 3 × 50 mins (2 hours 30 mins) correctly subtracted

– 30 mins correctly evaluated</td><td>

B1

B2

B1</td><td>These marks can be completed in any order and are FT marks

Award B1 for 3 × 50 or 150

Answer of 10:45 (am) gains B4

Tables below give times depending on the order that they have been subtracted from 2pm:
<table>
<tr><td>Mark</td><td>Method 1</td><td>Time</td></tr>
<tr><td>B1</td><td>-15 mins</td><td>1:45 (pm)</td></tr>
<tr><td>B2</td><td>-2hrs 30 mins</td><td>11:15 (am)</td></tr>
<tr><td>B1</td><td>-30 mins</td><td>10:45 (am)</td></tr>
</table>
<table>
<tr><td>Mark</td><td>Method 2</td><td>Time</td></tr>
<tr><td>B1</td><td>-15 mins</td><td>1:45 (pm)</td></tr>
<tr><td>B1</td><td>-30 mins</td><td>1:15 (pm)</td></tr>
<tr><td>B2</td><td>-2hrs 30 mins</td><td>10:45 (am)</td></tr>
</table>
<table>
<tr><td>Mark</td><td>Method 3</td><td>Time</td></tr>
<tr><td>B1</td><td>-30 mins</td><td>1:30 (pm)</td></tr>
<tr><td>B1</td><td>-15 mins</td><td>1:15 (pm)</td></tr>
<tr><td>B2</td><td>-2hrs 30 mins</td><td>10:45 (am)</td></tr>
</table>
<table>
<tr><td>Mark</td><td>Method 4</td><td>Time</td></tr>
<tr><td>B1</td><td>-30 mins</td><td>1:30 (pm)</td></tr>
<tr><td>B2</td><td>-2hrs 30 mins</td><td>11:00 (am)</td></tr>
<tr><td>B1</td><td>-15 mins</td><td>10:45 (am)</td></tr>
</table>
<table>
<tr><td>Mark</td><td>Method 5</td><td>Time</td></tr>
<tr><td>B2</td><td>-2hrs 30 mins</td><td>11:30 (am)</td></tr>
<tr><td>B1</td><td>-15 mins</td><td>11:15 (am)</td></tr>
<tr><td>B1</td><td>-30 mins</td><td>10:45 (am)</td></tr>
</table>
<table>
<tr><td>Mark</td><td>Method 6</td><td>Time</td></tr>
<tr><td>B2</td><td>-2hrs 30 mins</td><td>11:30 (am)</td></tr>
<tr><td>B1</td><td>-30 mins</td><td>11:00 (am)</td></tr>
<tr><td>B1</td><td>-15 mins</td><td>10:45 (am)</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Unit 1: Foundation Tier</th><th>Mark</th><th>Comments</th></tr>
<tr><td>4(a) Method to compare the same number of toothbrushes, e.g. for 1, 5, 6, 15, 30 or 60 toothbrushes
• (1) 1(.)44 ÷ 3 AND 2(.)25 ÷ 5
• (3) (1(.)44 AND) 3 × 2(.)25 ÷ 5
• (5) 2 × 1(.)44 – 1(.)44 ÷ 3 (AND 2(.)25))
• (5) 5 × 1(.)44 ÷ 3 (AND 2(.)25))
• (6) 2 × 1(.)44 AND 2(.)25 ÷ 5 + 2(.)25
• (15) 5 × 1(.)44 AND 3 × 2(.)25
• (30) 10 × 1(.)44 AND 6 × 2(.)25
• (60) 20 × 1(.)44 AND 12 × 2(.)25

An accurate calculation for a 3 pack OR a 5 pack, e.g. 48(p) or 45(p), (£)7.20 or (£)6.75

Cost of same number of toothbrushes for 3 pack AND 5 pack WITH conclusion pack of 5 is better value for money</td><td>M1

A1

A1</td><td>In £s:
<table><tr><td></td><td>1</td><td>3</td><td>5</td><td>6</td><td>15</td><td>30</td><td>60</td></tr><tr><td>3pk</td><td>0.48</td><td>(1.44)</td><td>2.40</td><td>2.88</td><td>7.20</td><td>14.40</td><td>28.80</td></tr><tr><td>5pk</td><td>0.45</td><td>1.35</td><td>(2.25)</td><td>2.70</td><td>6.75</td><td>13.50</td><td>27.00</td></tr></table>

If units are given, they must be correct
Ignore any subsequent working, unless it adversely impacts on the conclusion</td></tr>
<tr><td>4(b) (100 ml for) 93 × 4 ÷ 3
or 93 ÷ 3 + 93
or 93 × 20 ÷ 15
or 93 × 100 ÷ 75
or equivalent

(£)1.24 or 124(p)</td><td>M2

A1</td><td>M1 for any one of the following:
• (25 ml for) 93 ÷ 3 (= 31p)
• (5 ml for) 93 ÷ 15 (= 6.2p)
• (1 ml for) 93 ÷ 75 (= 1.24p)

If units are given, they must be correct</td></tr>
<tr><td>5(a) 15(:)00 or 3 p.m.</td><td>B1</td><td>Allow 15(:)00 pm, 3(:00) or 3 o’clock
Do not accept 15(:)00 am, 3 a.m, 03:00 (p.m)</td></tr>
<tr><td>5(b) 14 (km)</td><td>B1</td><td></td></tr>
<tr><td>5(c) 12:00 to 12:30</td><td>B1</td><td></td></tr>
<tr><td>6.
(Tax on first 15000 euros) 0.2(0) × 15000

(Tax on remaining income) 0.3(0) × (26000 – 15000)

(Total income tax) 6300 (euros)</td><td>
M1

M2

A2</td><td>Ignore £ written for euros
(= 3000 euros)

(= 3300 euros)
M1 for (Remaining income to be taxed)
26000 – 15000 (= 11000 euros)

Ignore any further working (such as to calculate income – income tax)

A1 for either part of the tax correctly evaluated, i.e.
(0.2(0) × 15000 =) 3000 (euros) or
(0.3(0) × (26000 – 15000) =) 3300 (euros)</td></tr>
</table>

Unit 1: Foundation Tier	Mark	Comments
7. (Total of all entrance fees is) (Cycling entrance fees £) 2000 × 25 + (Cycling and athletics entrance fees £) 4000 × 40 + (Athletics entrance fee £) 1200 × 30 (£) 246 000	M2 A1	For the sum of the three appropriate products *(50 000 +)* *(160 000 +)* *(36 000)* M1 for any one of the following: • at least two appropriate products • one appropriate product in a sum of 3 products CAO
8(a) (£) 70	B2	B1 for any one of the following: • use of (£)2010 • use of (£)1940
8(b) Answer in the inclusive range (£)1700 to (£)1780	B1	Allow answers given as a range provided 'their range' is inclusively within the required range

Unit 1: Foundation Tier	Mark	Comments
9(a) 50 × 3 × 1.8(0) or 50 × 3 × 180 (£) 270 or 27000(p)	M2 A2	M1 for any of the following: • 50 × 3 • 50 × 1.8(0) • 50 × 180 • 3 × 1.8(0) • 3 × 180 For A2, if units are given, they must be correct, otherwise A1 for 270p or £27000 Ignoring units, A1 for any of the following: • (50 × 3 =) 150 • (50 × 1.8(0) =) 90 • (50 × 180 =) 9000 • (3 × 1.8(0) =) 5.4(0) • (3 × 180 =) 540
9(b)(i) (Mean of 8 temperatures is -56 ÷ 8 =) -7 (°C)	B3	Must not be from incorrect working, other than allowing from 56 ÷ 8 B2 for any one of the following: • -56 ÷ 8 • 56 ÷ 8 = 7 B1 for any one of the following: • (sum of temperatures) -56 • (sum of temperatures) 56 • sight of 'their sum of temperatures' ÷ 8, provided the summation is <u>not</u> from a sum involving all positive integers or all negative integers, with or without a negative sign inserted. If '÷ 8' is not seen, it may be implied from 'their sum' and 'their mean' (rounded or truncated)
9(b)(ii) (-56 + -16) ÷ 9 or -72 ÷ 9 -8 (°C)	M1 A1	FT 'their -56' from (b)(i) On FT allow a rounded or truncated answer Allow a correctly rounded or truncated answer, to 1d.p. for '('their -56' + -16) ÷ 9' to imply M1 A1
9(c)(i) 20 × (8.6 (± 0.2)) 172 (± 4 m)	M1 A1	Do not award from sight of an incorrect evaluation of 'their 8.6' × 20
9(c)(ii) 232° ± 2°	B1	