



GCSE MARKING SCHEME

SUMMER 2025

**GCSE
MATHEMATICS – NUMERACY
UNIT 1 – HIGHER TIER
3310U50-1**

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 2025 MARK SCHEME

GCSE Mathematics – Numeracy Unit 1: Higher Tier	Mark	Comments
1. Unambiguous correct position of X	B3	<u>X must be shown within the tolerance $\pm 2\text{mm}$, $\pm 2^\circ$, not for the sight of the intersection of lines within tolerance $\pm 2\text{mm}$ or $\pm 2^\circ$ or a dot</u> B2 for the any one of the following: - unambiguous intersection of 2 appropriate lines within tolerance $\pm 2\text{mm}$ or $\pm 2^\circ$, but the position of X is not indicated, e.g. - unambiguous angle bisector between front and right wing $\pm 2^\circ$ <u>AND</u> unambiguous horizontal line $2\text{cm} \pm 2\text{mm}$ from the front - a horizontal line $2\text{cm} \pm 2\text{mm}$ from the front <u>AND</u> a vertical line $2\text{cm} \pm 2\text{mm}$ from the right wing - a horizontal line $2\text{cm} \pm 2\text{mm}$ from the front <u>AND</u> an intersecting arc radius $2\text{cm} \pm 2\text{mm}$ with centre on the right wing $2\text{cm} \pm 2\text{mm}$ from the front - Position of X indicated with <u>one</u> line (seen or implied) <u>within tolerance</u> and the other line (seen or implied) very slightly out of tolerance ($\approx \pm 4\text{mm}$, $\approx \pm 4^\circ$) B1 for appropriate sight of any one of the following: - unambiguous angle bisector between front and right wing $\pm 2^\circ$ - unambiguous horizontal line $2\text{cm} \pm 2\text{mm}$ from the front - unambiguous vertical line of length $2\text{cm} \pm 2\text{mm}$ that is $2\text{cm} \pm 2\text{mm}$ from the right wing - position of X indicated but both lines, seen or implied, slightly out of tolerance ($\approx \pm 4\text{mm}$, $\approx \pm 4^\circ$) - exactly two X positions marked, one X meeting both criteria and the other X meeting one criterion B0 for the following: - X meeting one criterion but no suitable line indicated - a vertical line of length 2cm from the front but not 2cm from the right, with X meeting one criterion

2. (Repayment) 55×24 (£) 1320 (% Interest) $\frac{1320 - 500}{500} (\times 100)$ or $\frac{820}{500} (\times 100)$ or $\frac{1320}{500} (\times 100) - 1 (\times 100)$ 164 (%)	M1 A1 M1 A1	Must be as a complete unspoilt method FT 'their repayment' provided from a calculation including 55×24 Award M1 for complete method to show what percentage 820 is of 500 Mark final answer On FT 'their %' > 100, allow rounded or truncated so that it is accurate to a whole number If final M0A0, award SC1 for a final percentage of 264(%) from $\frac{1320}{500} \times 100$, or equivalent from $100 \times \text{'their repayment'} \div 500$ with required accuracy
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.
3. (Tax at 10%) 0.1×8000 (= €800) AND (Tax at 20%) 0.2×2000 (= €400) (Total income tax) (€) 1200	M3 A1	Ignore £ or other currency for € M2 for any of the following: • (Tax at 10%) $0.1 \times (18\,000 - 10\,000)$ • (Tax at 10%) 0.1×8000 • (Tax at 20%) $0.2 \times (20\,000 - 18\,000)$ • (Tax at 20%) 0.2×2000 M1 for appropriate sight of either $(18\,000 - 10\,000 =) 8000$ or $(20\,000 - 18\,000 =) 2000$ CAO Ignore further calculation for net pay or overall percentage tax paid A0 for a final answers (€) 11 200 or (€) 21 200 (including personal allowance added, $10\,000 + 1200$ or gross pay added $20\,000 + 1200$)

5(a) $10 \times 280 \div 7$ or $3 \times 280 \div 7 + 280$ or $30 \times 280 \div 70 + 280$ or equivalent (£) 400	M2 A1	M1 for any one of the following: • $280 \div 7$ (= £40) • appropriate sight of 40 • (1% is) $280 \div 70$ (= £4) • appropriate sight of 4 • $3 \times 280 \div 7$ (= £120) • appropriate sight of 120 • (30% is) $30 \times 280 \div 70$ CAO If no marks, award SC1 for sight of $10 \times 280 \div 3$ (= £933.333...)
5(b) $660 \div 1.2$ or equivalent (£) 550	M1 A1	Allow M1 A1 for an answer of (£)550 provided not from incorrect working
6(a) 60 (kg)	B1	Answer space takes precedence
6(b) $\frac{1}{4} \times 500$ 125 (plants)	M1 A1	Answer space takes precedence If no marks, award SC1 for 375 (plants from $\frac{3}{4} \times 500$)
6(c) Roma AND interquartile range	B1	

7(b) 100 (bags)	B1	Allow an answer of $(1 \times) 10^2$ FT 'their (a)' $\div (1.5 \times 10^4)$ correctly evaluated, rounded up to a whole number of bags provided 'their (a)' $> 3 \times 10^4$ Allow FT from 'their (a)' as 'their final answer' using: either 'their final answer' expressed as digits or 'their final answer' in standard form
8. (Width of the door) $546 \div (\frac{1}{2} \times 3 \times 4)$ 91 (cm)	M2 A1	M1 for the area of the cross-section $\frac{1}{2} \times 3 \times 4 (= 6)$ CAO. Mark final answer If no marks, award SC2 for $(546 \div (3 \times 4) =) 45.5$ (cm) or SC1 for $546 \div (3 \times 4)$
9(a) 20 (minutes)	B1	Answer space takes precedence
9(b) 27 (customers)	B1	Answer space takes precedence
9(c) Appropriate sight of any of the following: • (70% of 50 =) 35 (customers) AND (40 minutes is) 33 (customers) • (30% not spent < 40 minutes is) 15 (customers) AND (> 40 minutes) 17 (customers) • (70%) 35 (customers is) 41 to 41.5 (minutes) • ((40 mins) 33 customers is $33/50 \times 100 =$) 66% • (>40 mins, 17 customers is $17/50 \times 100 =$) 34% Conclusion 'Aled is not correct'	B2 B1	B1 for any one of the following: • (70% of 50 =) 35 (customers) • (40 minutes is) 33 (customers) • (30% not spent < 40 minutes is) 15 (customers) • (> 40 minutes) 17 (customers) CAO from correct working only and B2 previously awarded If B2 B1 but an incorrect unit given, penalise –1, e.g. 15 minutes and 17 minutes, or 35 minutes and 33 minutes B2 B1 – 1 (2 marks)

11. (Mass =) $300 \times 1 + 200 \times 1.05$ $= 510 \text{ (g)}$ (Density of new liquid =) $\frac{510}{500}$ or $\frac{5.1}{5}$ or equivalent $= 1.02 \text{ (g/ml)}$	M1 A1 M1 A1	May be seen as 5.1 (g) if 5 ml considered (i.e. M1A1 for $3 \times 1 + 2 \times 1.05 = 5.1$) FT 'their derived 5(.)10' Answer space takes precedence Do not accept fractions or mixed numbers If no marks awarded, SC1 for appropriate sight of $(2(.00) \times 1.05 =) 210$ or 2.1
12(a) $100 \times \frac{\text{(number of staff in a category)}}{400}$ or equivalent (Number of delivery staff in sample =) $9\frac{3}{4}$ or 9.7(5) or 9.8 AND $20\frac{1}{2}$ or 20.5 AND $56\frac{3}{4}$ or 56.7(5) or 56.8 AND 13 or equivalents (Numbers in the sample =) 10, 20, 57, 13	M1 A2 A1	Sight of this calculation for any category of staff Implies award of M1 A1 for any one of the following: - Any one of these unrounded answers correct or 13 correct 10, 21, 57, 13 if unrounded answers not seen Award M1A2A1 for 10, 20, 57, 13 <u>provided no incorrect work seen</u> If M1 previously awarded, A1 on FT from their unrounded answers for equivalent difficulty i.e. provided: - their correctly rounded answers sum to 99 or 101 AND - the correct numbers in the sample are given from their unrounded answers, including any decisions regarding rounding up or down and the rounding has been applied to a decimal unrounded answer AND - the numbers in the sample add to 100

12(b)(i) (Number of staff shown on the graph =) $6 \times 5 + 20 \times 5 + 18 \times 5 + 8 \times 10 + 2 \times 15$ $(= 30 + 100 + 90 + 80 + 30)$ $= 330$	M1 A1	Check the graph for their answer Allow M1 for any one of the following: - the sum of 5 products with at least 3 correct - sight of all 5 correct products CAO
12(b)(ii) (Frequency density for 45 - 55s =) $\frac{400 - 330}{10}$ or $7(\times 10 = 70)$ Bar of height 7 for the group 45-55 drawn	M1 A1	FT 'their 330' provided $200 < \text{'their 330'} < 400$ FT for their bar of height $\frac{400 - \text{'their 330'}}{10}$
12(b)(iii) (Lower quartile =) $(25 +) \frac{100 - 6 \times 5}{20 \times 5} \times 5$ or $(25 +) \frac{70}{100} \times 5$ $= (25 +) 3.5$ $= 28.5 \text{ (years)}$	M1 A1 A1	Accept use of $\frac{400+1}{4} (= 100.25)$ instead of 100 or equivalent e.g. $(25 +) \frac{70}{20}$ FT 'their 6×5 ' and 'their 20×5 ' from (b)(i) Use of 100.25 gives 3.5(125) ISW Use of 100.25 gives 28.5(125) An unsupported answer of 28.5 is awarded M1A1A1
12(b)(iii) <u>Alternative method:</u> $(30 -) \frac{6 \times 5 + 20 \times 5 - 100}{20 \times 5} \times 5$ or $(30 -) \frac{30}{100} \times 5$ $= (30 -) 1.5$ $= 28.5 \text{ (years)}$	M1 A1 A1	Accept use of $\frac{400+1}{4} (= 100.25)$ instead of 100 or equivalent e.g. $(30 -) \frac{30}{20}$ FT 'their 6×5 ' and 'their 20×5 ' from (b)(i) Use of 100.25 gives 1.48(75) or 1.49 ISW Use of 100.25 gives 28.5(125) An unsupported answer of 28.5 is awarded M1A1A1
12(b)(iv) Can't tell AND reason e.g. 'There could be more than 70 staff members in the group 25 to 30 years of age who are less than $28\frac{1}{2}$ years old', or 'The lower quartile could be anywhere between 25 and 30', or 'We cannot be certain that the ages are distributed evenly in the group', or 'My calculation (for the lower quartile) is based on an even distribution of ages'	E1	<u>FT their lower quartile in (b)(iii) provided it is in the group 25 to 30</u> Allow Can't tell AND reason e.g. 'Don't know ages within a group' Do not accept Can't tell AND reason e.g. 'The ages are spread out'

13(a) (Area =) $\frac{1}{2} \times 10 \times (0+40 + 2(22+33+39+40))$ OR $\frac{1}{2} \times 10 \times (40+44+66+78+80)$ = 1540 (cm²) (Area of the front plate =) 1540 – 20×20 (×2) = 2280 (cm²)	M2 A1 m1 A1	If 5 strips of <u>unequal</u> width used, all marks available, but penalise -1 from accuracy marks gained M1 for at most 1 slip in substitution of values from the vertical axis OR M1 for 1 of the vertical readings omitted with all others correct FT from M1. May be implied in further working FT 'their 1540' provided M1 or M2 previously awarded FT 'their 1540' If final m0A0 awarded, and again FT 'their 1540' award SC1 for any one of the following: • (2×1540 – 20×20 =) 2680 (cm²) • (1540 – 2×20×20 =) 740 (cm²)
13(a) <u>Alternative method 1:</u> $\frac{(0+22) \times 10}{2} + \frac{(22+33) \times 10}{2} + \frac{(33+39) \times 10}{2} + \frac{(39+40) \times 10}{2} + \frac{(40+40) \times 10}{2}$ [110 + 275 + 360 + 395 + 400] = 1540 (cm²) (Area of the front plate =) 1540 – 20×20 (×2) = 2280 (cm²)	M2 A1 m1 A1	If 5 strips of <u>unequal</u> width used, all marks available, but penalise -1 from accuracy marks gained Each area may be seen as the sum of the area of a rectangle and triangle M1 for the sum of these 5 areas with at most one error (may be repeated) in the substitution of values from the vertical axis OR M1 for the sight of 5 correct areas with the intention to add them (possibly omitting one) FT from M1 FT 'their 1540' provided M1 or M2 previously awarded FT 'their 1540' If final m0A0 awarded, and again FT 'their 1540' award SC1 for any one of the following: • (2×1540 – 20×20 =) 2680 (cm²) • (1540 – 2×20×20 =) 740 (cm²)
13(a) <u>Alternative method 2:</u> $\frac{(0+22) \times 10}{2} + \frac{(22+33) \times 10}{2} + \frac{((33+39) \times 10 - 5 \times 20)}{2} + \frac{((39+40) \times 10 - 10 \times 20)}{2} \text{ or } + \frac{(19+20) \times 10}{2} + \frac{((40+40) \times 10 - 5 \times 20)}{2}$ [110 + 275 + 260 + 195 + 300] = 1140 (cm²) (Area of the front plate =) 2280 (cm²)	M3 A1 A1	If 5 strips of <u>unequal</u> width used, all marks available, but penalise -1 from accuracy marks gained Each area may be seen as the sum of the area of a rectangle and triangle M2 for the sum of these 5 areas with 1 one error (possibly repeated) in the substitution of values from the vertical axis <u>or</u> 1 error in the values used for the rectangle being subtracted OR M2 for the sight of 5 correct areas with the intention to add them (possibly omitting one) M1 for the sum of these 5 areas with 1 one error (possibly repeated) in the substitution of values from the vertical axis <u>and</u> 1 error in the values used for the rectangle being subtracted FT from M2 FT provided M2 or M3 previously awarded FT 2 × 'their 1140'

13(c) $\frac{1}{3} \times x \times \frac{x}{2} \times 42 + x \times \frac{x}{2} \times 16 = 750$ or $7x^2 + 8x^2 = 750$ or equivalent $15x^2 = 750$ $x^2 = 50$ or $x = \sqrt{50}$ $x = 5\sqrt{2}$ (cm)	M2 m1 A1 B2	M1 for any one of the following: $\frac{1}{3} \times x \times \frac{x}{2} \times 42 + \dots = 750$ or $\dots + x \times \frac{x}{2} \times 16 = 750$ or $\frac{1}{3} \times x \times \frac{x}{2} \times 42 + x \times \frac{x}{2} \times 16$ FT from M1 if possible Needs to be of the form $ax^2 = 750$ CAO For B2 or B1, FT 'their derived 50' for equivalent level of difficulty provided it comes from $ax^2 = 750$ B1 for writing 50 as a product of 2 or more factors where one of the factors OR the product of 2 of their factors is a square number e.g. 25×2, $5 \times 5 \times 2$, OR B1 for writing $\sqrt{50}$ as a product of 2 or more surds where one of the surds OR the product of 2 of their surds gives a whole number e.g. $\sqrt{25} \times \sqrt{2}$, $\sqrt{5} \times \sqrt{5} \times \sqrt{2}$
---	---	---