UNIT 1: NON-CALCULATOR, INTERMEDIATE TIER
GENERAL INSTRUCTIONS for MARKING GCSE Mathematics - Numeracy

1. The mark scheme should be applied precisely and no departure made from it. Marks should be awarded directly as indicated and no further subdivision made.

2. Marking Abbreviations
The following may be used in marking schemes or in the marking of scripts to indicate reasons for the marks awarded.
cao = correct answer only
MR = misread
PA = premature approximation
bod = benefit of doubt
oe = or equivalent
si = seen or implied
ISW = ignore subsequent working

F.T. = follow through (√ indicates correct working following an error and ✗√ indicates a further error has been made)

Anything given in brackets in the marking scheme is expected but, not required, to gain credit.

3. Premature Approximation
A candidate who approximates prematurely and then proceeds correctly to a final answer loses 1 mark as directed by the Principal Examiner.

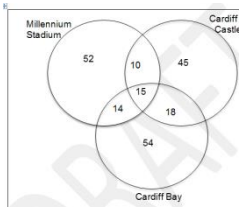
4. Misreads
When the data of a question is misread in such a way as not to alter the aim or difficulty of a question, follow through the working and allot marks for the candidates' answers as on the scheme using the new data.
This is only applicable if a wrong value, is used consistently throughout a solution; if the correct value appears anywhere, the solution is not classed as MR (but may, of course, still earn other marks).

5. Marking codes

- 'M' marks are awarded for any correct method applied to appropriate working, even though a numerical error may be involved. Once earned they cannot be lost.
- 'm' marks are dependant method marks. They are only given if the relevant previous 'M' mark has been earned.
- 'A' marks are given for a numerically correct stage, for a correct result or for an answer lying within a specified range. They are only given if the relevant M/m mark has been earned either explicitly or by inference from the correct answer.
- 'B' marks are independent of method and are usually awarded for an accurate result or statement.
- 'S' marks are awarded for strategy
- 'E' marks are awarded for explanation
- 'U' marks are awarded for units
- 'P' marks are awarded for plotting points
- 'C' marks are awarded for drawing curves

UNIT 1: NON-CALCULATOR, INTERMEDIATE TIER

GCSE Mathematics – Numeracy Unit 1: Intermediate Tier	Mark	Comment
1. Lines of length 6·5cm AND 5cm. Angle of turn 37° 1090 metres or equivalent	 B1 B1 B2 4	*Allow ± 2mm and ± 2°.* F.T. 'their length from start'× 100. Correct units must be given B1 for correct length without units. B1 for length only <u>with incorrect units</u> (e.g. 10·9cm or 11cm)
2.(a) (i) 9:00 a.m. (ii) 12:30 p.m. (iii) A (b)(i) States or implies NO with a reason, e.g. 'No, the slope is the same from 8am to 9am' (ii)States or implies NO with a reason, e.g. 'No, the graph shows a further distance away from home between 12 noon and 1 p.m.'	B1 B1 B1 E1 E1 5	
3.(a) Car Wash (£)12 + Window (£)16 + Wax (£)15 + Cloths (£)20 (£) 63 (b) Water: 500 × (£)2 + (£)4 (= £1004) Electricity: 800 × 25(p)+ (£)10 Electricity VAT (£)210× 5/100 (+210) Total (£)1224.5(0) (c) (£)1287.5(0)	M2 A1 M1 M1 m1 A1 B1 8	M1 any 2 correct in a sum of at least 3 products CAO (£220.50) (Services 1004 + 220.50) CAO FT their total provided M1, M1, m1 awarded
4. (Laura's share=) ½ × ¾ × (£)8000 (£)3000 Conclusion, '£200 profit' Organisation and communication Accuracy of writing	M2 A1 B1 OC1 W1 6	Award M1 for sight of ½ × ¾ or ⅜ FT conclusion provided at least M1 awarded
5. 08:55 train from Chester chosen. Attempt to find time difference between 10:35 and 08:55 = 1(hr) 40 (min) or 100(min) (So total time =) 2(hr) 5 (min) or equivalent.	B1 M1 A1 B1 4	May be implied in further work. F.T. for 'their chosen train' (Other trains take 2hr 3m, 1hr 24m, 1hr 59m) F.T. time for 'their train journey' + 25min. <u>*Alternative method*</u> *(Arrives at Holyhead station) 10:35 B1* *F.T. 'their train arrival' + 25min* *(Arrives at ferry) 11:00 B1* *F.T. 'their times'* *Attempt to find time difference between 11:00 and 08:55 M1* *(So total time =) 2(hr) 5 (min) or equivalent. A1*

GCSE Mathematics – Numeracy Unit 1: Intermediate Tier	Mark	Comment
6.(a)(i) 11 (cm) (ii) 6 (cm) (iii) 6cm wide and 6cm length indicated (b) (9 stone 4 pounds =) 9 × 14 + 4 130 (pounds) 15 × 2.2 33 (pounds) Comparison, e.g. 130÷33 or multiples of 33 (33, 66, 99, …) Completes sentence with '4'	B1 B1 B1 M1 A1 M1 A1 B1 B1 9	 OR 130÷2.2 (kg) ≈ 59 (kg) OR 59÷15 or 60÷15 or multiples of 15 (15, 30, 45, …)
7. **52** visited the Millennium Stadium but not Cardiff Castle or Cardiff Bay  	B5 5	B4 for 4 correct entries B3 for 3 correct entries B2 for 2 correct entries B1 for 1 correct entry F.T. from previous entries until second error *Award B3 if an answer of 22 (25 is used instead of 10 giving 3, 29 and an answer of 22).*
8. Perpendicular bisector Stornaway and Ullapool (±2°) Use of correct scale (1cm = 10 miles) Arc from Portree 30 miles shown as approximately 3× distance Muir to Dingwell (i.e. 3cm) Free hand distance 10 miles off shore (i.e. 1cm) Indication of possible sightings Range of bearing ±2°	B1 B1 B1 B1 B1 B2 7	 Award for use of 3cm in arc or 1cm in free hand drawing below FT their Muir to Dingwall distance FT for attempted perpendicular and arc only FT provided at least B2 previously awarded B1 for any 1 bearing within the correct range
9.(a) Area of ends: 10×1 + 10×3 Area of the floor: 20.1×10 Vertical sides with slopes: ½×20×(1+3) × 2 Total surface area of 5 faces: 10×1 + 10×3 + 20.1×10 + 2 ×½×20×(1+3) (10 + 30 + 201 + 80 or 10 + 30 + 201 + 40 + 40=) 321 (m^2) Total cost £ 321 × 20 + 6 × 150 (£)7320 (b) (i) >£140: with pool 120 – 105 (=15) AND without pool 120 – 115 (=5) 10 (hotels) (ii) Interpretation must refer to the greater spread AND greater median of prices in hotels with a pool or equivalent e.g. The prices are generally lower and less varied in hotels without pools.	B1 B1 B1 M1 A2 M1 A1 M1 A1 B3 E1 14	 May be seen with a calculation ×£25 FT their 5 faces provided at least B2 previously awarded. A1 for at least 3 areas accurately evaluated in a sum of areas of 5 sides FT 'their derived 321' Medians and IQRs correct B2 for any 3 of the 4 correct B1 for any 1 or 2 of the 4 correct Depends on previous award of at least B2

	Median (£)	IQR (£)
With pool	108	(130 – 74 =) 56
Without pool	74	(90 – 66 =) 24

GCSE Mathematics – Numeracy Unit 1: Intermediate Tier	Mark	Comment
10. (a) £1 coin (b) 8×10^{-3} (c) 307 (d) 3860 ÷ 200 19.3 (g/cm^3)	B1 B1 B1 M2 A1 6	 M1 for digits 3860 divided by 200 with incorrect place value
11. 4 × ⅓ or equivalent × 2½ or equivalent. = 20/6(hrs) or equivalent OR 200(min) = 3hrs 20 min.	M1 M1 A1 A1 4	 Do not accept 20 ÷ 6. F.T. if at least one M1 and of equivalent difficulty. *If question is misread as 'It took Machine **A** 4 hours .....How long did it take Machine **B**.....?'* *Award SC1 for (4 × 3) / 2½ or 4·8 hours and a further SC1 for 4hrs 48min.*
12(a) ¼ or equivalent (b) TRUE FALSE TRUE TRUE FALSE	B1 B2 3	 B1 for any 4 correct
13.(a)(i) (800 – 300)/ 50 = 10 (ii) Explanation, e.g. 'extra cost per person', '£10 per person', '£100 extra for every 10 people' (iii) Explanation, e.g. 'fixed charge' (b) (£)200	M1 A1 E1 E1 B1 5	Or equivalent Do not accept 'more people the more paid' FT from their gradient if reasonable Accept 'conference cost starts at £300', or 'hire cost' CAO