

MATHEMATICS - NUMERACY 2 nd SAMs 2017 Unit 1 (Non-calculator) Foundation Tier			Mark	MARK SCHEME Comments (Page 1)																																	
1. <table border="1"><tr><td>Item</td><td>Quantity</td><td>X or ✓</td></tr><tr><td>Orange juice</td><td>2 litres</td><td>(✓)</td></tr><tr><td>Mushrooms</td><td>50 kilograms</td><td>X</td></tr><tr><td>A bag of sugar</td><td>1 kilogram</td><td>✓</td></tr><tr><td>Tomato sauce</td><td>350 litres</td><td>X</td></tr><tr><td>Potatoes</td><td>5 grams</td><td>(X)</td></tr><tr><td>Chocolate bar</td><td>100 grams</td><td>✓</td></tr><tr><td>Bottle of vinegar</td><td>250 millilitres</td><td>✓</td></tr><tr><td>Butter</td><td>500 grams</td><td>✓</td></tr><tr><td>Milk</td><td>4 litres</td><td>✓</td></tr><tr><td>Washing-up liquid</td><td>500 litres</td><td>X</td></tr></table>			Item	Quantity	X or ✓	Orange juice	2 litres	(✓)	Mushrooms	50 kilograms	X	A bag of sugar	1 kilogram	✓	Tomato sauce	350 litres	X	Potatoes	5 grams	(X)	Chocolate bar	100 grams	✓	Bottle of vinegar	250 millilitres	✓	Butter	500 grams	✓	Milk	4 litres	✓	Washing-up liquid	500 litres	X	B4 4	Award B4 for all 8 correct responses Award B3 for 7 correct responses Award B2 for 6 correct responses Award B1 for 5 correct responses
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2. 7345 + 6339 + 4991 + 1093 = 19768 19800			M1 A1 B1 3	Attempt to add 3 or 4 numbers CAO FT their total																																	
3. (a) Two numbers less than or equal to 4 AND two numbers greater than 4. (b) Four numbers less than 3			B1 B1 2	For both parts accept use of appropriate decimal, fractional and/or negative values. e.g. 1, 2, 5, 6 OR 3, 4, 5, 6 OR 4, 4, 7, 7 etc e.g. 0, 0, 0, 0 OR 2, 1, 0, -1 etc																																	
4. (a) Correct net circled or clearly indicated  (b) Triangular prism (c) A			B1 B1 B1 3	Accept answers either circled or clearly indicated.																																	
5. (a) <table border="1"><tr><td>Position</td><td>Name</td><td>Score</td></tr><tr><td>1st</td><td>F. Loxley</td><td>-7</td></tr><tr><td>2nd</td><td></td><td></td></tr><tr><td>3rd</td><td>A. Jenkins</td><td>-2</td></tr><tr><td>4th</td><td>G. Francis</td><td>-1</td></tr><tr><td>5th</td><td></td><td></td></tr><tr><td>6th</td><td></td><td></td></tr><tr><td>7th</td><td>H. Smith</td><td>8</td></tr></table> (b) 8 circled or clearly indicated (c) 16			Position	Name	Score	1 st	F. Loxley	-7	2 nd			3 rd	A. Jenkins	-2	4 th	G. Francis	-1	5 th			6 th			7 th	H. Smith	8	B3 B1 B1 5	B2 for 3 correct B1 for 2 correct. Accept 15 (for jointly winning) OR Accept 17, 18, 19.									
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6. Identifying/sight of when Chloe can(/cannot) go Identifying/sight of when Gethin can go Identifying / sight of when Martyn can(/cannot) go Identifying common dates – (25 th Jan), 22 nd March, 26 th April & 28 th June Latest date = 28 th June			B1 B1 B1 B1 B1 5	Look at calendar for indication throughout the question e.g. Sept, Oct, Nov, Dec crossed out Look for focus on Sundays (25 th Jan), (22 nd Feb), 22 nd (& 29 th) March, 26 th April, (24 th & 31 st May), 28 th June, (26 th July, 23 rd & 30 th Aug, 27 th Sept, 25 th Oct, 22 nd & 29 th Nov & 27 th Dec) Sight of common dates triggers 1 st 4 marks Award full marks for an unsupported correct answer																																	

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7. (Cost for the Jones and Williams families =) 3 × 16 + 1 × 15 = (£)63 (Cost for the Phillips family =) (99 – 63) = 36 (Number of nights =) (36 ÷ 12 =) 3 nights Organisation and communication Accuracy of writing		M1 A1 B1 B1 OC1 W1 6	FT 'their 63' if M1 awarded FT 'their 36'. Not dependent on M1												
8. <table border="1"><tr><td>Reading at the end of the period</td><td>65197</td></tr><tr><td>Reading at the beginning of the period</td><td>64947</td></tr><tr><td>Number of units used</td><td>250</td></tr><tr><td>Cost of the units, in £</td><td>75.00</td></tr><tr><td>Standing charge for the 3 months</td><td>25.34</td></tr><tr><td>Total cost</td><td>100.34</td></tr></table>		Reading at the end of the period	65197	Reading at the beginning of the period	64947	Number of units used	250	Cost of the units, in £	75.00	Standing charge for the 3 months	25.34	Total cost	100.34	 B1 B2 B1 4	 FT their numbers of units in £. B1 for answer in pence. FT their cost of units + 25.34. If any entry is blank, look in the work area.
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9. (a) (Total wage for 10 people) 10 × 280 (Wage of each of the other 9 people =) (2800 – 1000) ÷ 9 (£)200 Median AND modal wage (£)200 (b) Inserts £200 and gives a reason relating to 'median' or 'mode' including a related statement such as 'the most common' or 'the middle value'		M1 m1 A1 B1 E1 5	(£2800) FT 'their 2800' FT 'their derived 200' Needs sight of intention of reference to the median and / or mode Only award if clearly linked to evidence of understanding of the average selected. Accept a reason justifying the selection of 'mode or median' or 'not the mean'.												
10.(a) 11:30 (b) 17:37 train selected at Blaenau Ffestiniog, (Arrives 18:35 Llandudno Junction,) and Departs Llandudno Junction at 18:39 Arrives in Rhyl at 18:55 17:37 → 23 (minutes) + 55 (minutes) → 18:55 or 78 (minutes) 1 hour 18 minutes		B1 M1 A1 M1 A1 5	Needs sight of 17:37 train and 18:39 train May be implied Or alternative method to find the time difference e.g. using the durations given in the timetables, 58 + 4 + 16 (= 78 mins) etc												
11. Correct rooms allocated to (Sasha and Mia), (Mr & Mrs Jones), (Flavia), (Mr & Mrs Evans), (Morys & Ifan), (Heledd) and (Mr & Mrs Igorson).		B4 4	<i>There are several acceptable combinations.</i> B4 for all 7. B3 for 6. B2 for 5. B1 for 4.												

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12. (a) $7 \times 99\text{p}$ worked as $7 \times £1 - 7 \times 1\text{p}$ $5 \times £3.95$ worked as $5 \times £4 - 5 \times 5\text{p}$ $3 \times £7.50 - 3 \times 1\text{p}$ or $3 \times £7 + 3 \times 50\text{p} - 3 \times 1\text{p}$ Total (£)49.15 or 4915p (b) Wrong change, should be 85p	B1 B1 B1 B1 B1 5	Accept equivalent simple methods involving compensation from rounding with multiplication or any valid multiplication method throughout, but not repeated addition Allow £49.15p. Answer in (a) or (b) FT provided less than £50 and of equivalent difficulty.
13.(a) Reason e.g. 'fair comparison', 'doing survey the same way' (b) (i) Name: Shaun Length in range 10.3 to 10.5(cm) (ii) Shaun with a reason, e.g. 'Shaun because (positive) correlation', 'Shaun because leaves are similar', 'Shaun as there is a connection between length and width' (iii) Reasonable straight line of best fit (iv) Width in the range 6.8 to 7.5 cm	B1 B1 B1 B1 B1 5	Points above and below following trend OR correct reading from their line of best fit
14. Use of $\times 48 \div 4$ or $\times 12$ OR realising 55g is 2oz $(12 \times 55) \div 110 \times 4$ OR 2×12 OR equivalent 24 (ounces)	B1 M1 A1 3	(2 oz for 4 pancakes, so 2×12)
15. Attempt at unit cost e.g. for 100ml or 1ml, OR $1(.)28 / 8(00)$ with $45 / 3(00)$ or similar, OR looking to equate volumes, OR looking to <u>almost</u> equate volumes no more than 100ml difference, e.g. by looking at $3 \times 300\text{ml}$ with 800ml, or $2 \times 800\text{ml}$ with $5 \times 300\text{ml}$ Large bottle 16(p) per 100ml or 0.16(p) per 1ml Small bottle 15(p) per 100ml or 0.15(p) per 1ml Better value statement, conclusion small bottle	S1 B1 B1 E1 4	e.g. Idea of doubling or halving to equate, each done more than once. Method that would lead to a correct equate or comparison, e.g. for 300ml, 1200ml, 2400ml, ... OR 2.4l costs (£)3.84 or 1.2l costs (£)1.92 OR 2.4l costs (£)3.60 or 1.2l costs (£)1.80 E mark is dependent on conditions: EITHER Award provided B1 and B1 awarded, OR Award as FT from their logical conclusion provided at least B1 awarded, ignoring further incorrect processing within a final statement, OR Award provided S1 awarded for conclusion from comparison with correct calculations and correct difference in price for stated extra volume, e.g. '(900ml in) 3 small bottles (is £1.35) which is better value because you get 100ml more (than a large bottle) for 7p more'
16. 065° 197°	B1 B1 2	Allow a tolerance of $\pm 2^\circ$.