MATHEMATICS - NUMERACY 2nd SAMs 2017 Unit 2 (Calculator allowed) Foundation Tier	Mark	MARK SCHEME Comments (Page 1)
1. (a) Cabbage 8, Peas 13, Sprouts 6, Broccoli 3	B2	May be inferred from their bar chart. B1 for any two/three correct frequencies. If frequencies score 0, then give B1 for all 4 correct tallies.
Both axes labelled, e.g. frequency or number of people along one axis and Cabbage, Peas, Sprouts, Broccoli along the other axis (or on the bars), anywhere within the base (inc) of the corres. bar AND uniform scale for the frequency axis starting at 0.	B2	B1 if no scale but allow one square to represent 1 OR B1 if not labelled as 'frequency' or similar. If frequency scale starts with 1 at the top of the first square the starting at 0 will be implied for this axis. **Condone frequency values alongside square instead of at the top of the squares.**
Four bars at correct heights (bars must be of equal width). Can be in any order.	B2	FT their frequencies throughout. FT their scale. B1 for any 2 or 3 correct bars on FT.
(b) Suitable reason given linked to organising and/or collecting her data in a methodical way.	E1	
(c) Peas	B1	
(d) 3/30 or equivalent	B1 9	ISW
2. (a) 6 rectangles, measuring 6cm by 8cm, correctly drawn or stated.	B2	Award B1 for 2, 3, 4 or 5 rectangles correctly drawn.
(b) 120 ÷ 6 20 (pieces of card)	M1 A1 4	FT their number of rectangles.
3. (earnings) (32 × 6.50=) (£)208 (Tax &NI)(1/10 of 208=) (£)20.8(0) (Total outgoings) (20.8(0) + 50 + 60=) (£)130.8(0) (Has left) (208 – 130.8(0)=) (£)77.2(0) (Number of weeks) (419 ÷ 77.2(0)= 5.427...) 6	B1 B1 B1 B1 B2	CAO FT 'their 208' FT 'their 20.8(0)' FT 'their 130.8(0)' B1 for 5(.427) weeks. FT 'their 77.2(0)' for equivalent difficulty
Organisation and communication Accuracy of writing	OC1 W1 8	*Alternative method* *Earnings = 208* **B1** *Tax = 20.80* **B1** *(208 – 20.80 =)187.20* **B1** *Has left 77.20* **B1** *FT 'their 187.20' – 50 – 60* *Number of weeks = 6 weeks* **B2** *FT their 77.2(0) B1 for 5(.427) weeks*

4. (a) (area =) 45 × 25
        1125(m²)
(Cost =) 1125 × (£)85
        (£) 95625
	M1
	A1
	M1
	A1
	
	4
		FT 'their area'
		
		If no marks awarded, award SC2 for sight of (£)11900
		OR award SC1 for × 85 correctly

5. 4 ½ × 40 = 180 (Cooking time =) 180 mins (or 3 hrs) + 25 mins = 205 mins or 3 hours 25 mins (Chef begins cooking at) 10.05 (am)	B1 M1 A1 B1 4	FT 'their 180' FT their cooking time

MATHEMATICS - NUMERACY 2nd SAMs 2017 Unit 2 (Calculator allowed) Foundation Tier	Mark	MARK SCHEME Comments (Page 2)
6. Use of 30 teabags (for £1.80)	B1	
Method to compare, e.g. multiples of 30 & 40: 30, 60, 90, 120 & 40, 80, 120	M1	OR equivalent, e.g. 1 or 10 teabags considered for both bags of 30 & 40
4 × 1.8(0) and 3 × 2.60	m1	OR 1(.)80 ÷ 3(0) and 2(.)60 ÷ 4(0) with consistent place value to compare OR 60(p for 10) and 65(p for 10) with consistent place value to compare OR 60(p for 10) and (£) 2(.)60 – (£)1(.)80 = 80p for extra 10 OR 2.40 for 40 OR 1.80 ÷ 30 × 40 OR 1.80 ÷ 3 × 4 OR 60(p) for 10 and 80(p) for extra 10.
(£)7.2(0) and (£)7.8(0) or equivalent	A1	
Offer A (20 teabags + 50% free) is better value	E1	Depends on M1, m1 awarded with appropriate FT Accept answers suggesting 'depends if you need 40 teabags exactly' etc. provided M1, m1, A1 previously awarded. *SC1 for an answer based on comparison of 20 teabags for £1.80 with 40 teabags for £2.60, appropriate working with conclusion of 40 teabags*
	5	
7.(a) 150	B1	
(b) 325	B1	
	2	
8.(a) 7cm (± 0.2cm) × 8 (÷ 100)	M1	Award M1 only for answers 56cm or 56m or 56 or similar from ± 0.2cm tolerance
0.56 (m)	A1	
(b) Measuring 2 appropriate angles (±2°) to check interior (allied), or appropriate corresponding or alternate angles	B1	The size of angles may not actually be recorded, e.g. on diagram equal angles marked x and y.
Conclusion based on the angles measured and accurate knowledge of parallel line angle facts.	E1	Accept references to the angles which are equal or sum to 180° Do not accept 'travelling in the same direction so won't meet'
	4	

MATHEMATICS - NUMERACY 2nd SAMs 2017 Unit 2 (Calculator allowed) Foundation Tier	Mark	MARK SCHEME Comments (Page 3)
9.(a) £480	B1	
(b) £1620	B1	
(c)(i) Paying for 10m	B1	If *not awarded, FT use of 9m throughout*
11×1mth (11×10×40×1.2 =) (£)5280 AND 12mth charge (320×10×1.2 =) (£)3840	B2	B1 for either correct, or if neither correct award for excluding VAT charges of (£)4400 **and** (£)3200 respectively
6mth + 5×1mth 180×10 + 5×40×10 (×1.2) (£)4560	M1 A1	Accept excluding VAT (£3800)
Conclusion to pay annual charge based on the calculation of all 3 possibilities	E1	FT appropriate conclusion depending on the sight of any two of the 3 correct charges given including VAT *If misread not using 'per metre' consistently, hence MR-1, then B0, then FT throughout*
(ii) Greatest saving (£5280 - £3840 =) (£)1440	B1	FT their least of 3 possibilities subtracted correctly from their greatest of 3 possibilities
	9	
10.(a) 5·5 (metres)	B1	Accept answers in the range 5.4 to 5.6 inclusive
(b) Intention to read horizontal scale for depth of 3m filling	M1	Accept sight of 0.6 (hours)
36 (minutes)	A1	
(c) 13(:)36 or 1 36 pm AND 18(:)36 or 6 36 pm	B2	B1 for either correct, or B1 if both given with incorrect time notation or B1 for two times given that are 5 hours apart e.g. 14:36 and 19:36, i.e. FT 'their first time' + 5 hours for second B1. B0 if more than one statement identified.
(d) 4th statement identified	B1	
	6	
11.(a) 9 × 10 + 160 = 250 or equivalent	M1	
50(°F)	A1	
(b) 9c =5f – 160	B1	FT until 2nd error
$c = \dfrac{5f - 160}{9}$ or $c = \dfrac{5}{9}(f - 32)$	B1	
	4	
12. (a)(i) 253(°)	B1	
(ii) 360 – 42	M1	
= 318(°)	A1	*SC1 for answers of 073(°) and 138(°) in (i) and (ii)*
(b) 60° with construction arcs	M1	Accept anywhere on the line *Allow sight of construction arcs for 60°*
(30° by) bisecting 'their angle', with arcs shown Correct 30° from appropriate construction with line shown at the right hand end of the given line	M1 A1	Line (road) may not be shown Depends on both M marks
	6	