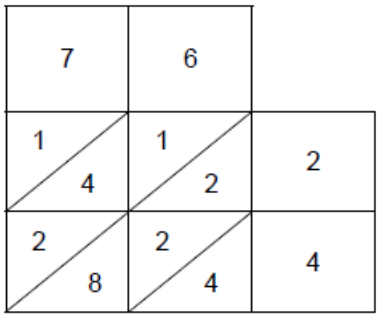
Question	Answer	Mark	Comments
1	**Alternative method 1 – traditional method**		
	304 or 1520 with the 0 correct for the multiplication by 20 or 144 or 1680 with the 0 correct for the multiplication by 70	M1	values may be seen separately or in rows if 1520 or 1680 incorrect, placeholder 0, or equivalent must be present
	their 304 + their 1520 or their 144 + their 1680	M1dep	
	1824	A1	
	Alternative method 2 – grid method		
	At least three of 1400, 280, 120 and 24	M1	may not be in a grid
	their 1400 + their 280 + their 120 + their 24	M1dep	
	1824	A1	

	Alternative method 3 – Napier's bones		
		M1	oe at least three of the calculated values correct
	Attempt to total correctly four diagonals for their table with carrying figure seen	M1dep	
	1824	A1	

1 cont	**Alternative method 4 – breaking calculation down**		
	Calculation broken down correctly with a maximum of one calculation error	M1	eg 76 × 10 × 2 (+) 70 × 4 (+) 6 × 4 with at least two of 1520, 280 and 24 correct
	Addition of their parts	M1dep	eg 1520 + 280 + 24
	1824	A1	
	Additional Guidance		
	70 × 20 + 6 × 4 (= 1424)		M0M0A0
	Alt 1 304 + 152 = 456		M0M0A0
	Alt 1 If the 0 is missing, allow 0 to be replaced by x or a placeholder space (may be implied by their 4 in units column of their final answer)		
	Alt 3 Diagonal lines must slope consistently for M1 unless recovered		
	Alt 3 Diagonal lines missing is M0 unless recovered		
	Alt 3 For M1M1dep, a carrying figure must be seen or implied		
	Alt 3 Answer must be clearly stated and not left "around" the grid		

2 (a)	0.31	B1	oe eg .31
	Additional Guidance		
	Final answer 31 (even if 0.31 seen in working)		B0
2 (b)	0.08	B1	oe eg .08

3	Correct indication of mistake	B1	eg (6.10) should be 7(.00) or 2 × 3.5(0) (= 7.(00)) or cost of pens is wrong
	11.25	B1	
	Additional Guidance		
	Accept any correct indication of mistake eg two lots of 50p don't equal 10p		
	Condone (£) 11.25 p for second B1		
	Any reference to cost of rulers (words or calculations) being incorrect cannot score first B1		
	Response only references the decimal points not being lined up correctly		B0

4	(A =) 2 000 000 and (B =) 500 000 and (C =) 400 000 and smallest answer C B largest answer A	B3	allow values or calculations instead of letters on answer lines B2 two of (A =) 2 000 000, (B =) 500 000, (C =) 400 000 B1 (A =) 2 000 000 or (B =) 500 000 or (C =) 400 000
	Additional Guidance		
	Answer line takes precedence over working		
	Any of the original value(s) misread or miscopied is max B2 for calculations		
	Once a correct evaluation has been seen, ignore further attempts to manipulate it for up to B2 eg 400,000 = 0.004 million, 0.5 million, 2 million, answer = CBA		B2
	Accept values in words eg accept half a million for 500 000		
	Ordering of their values is irrelevant when awarding B2 or B1		
	Ignore (incorrect) spacings or any use of commas within numbers or continental notation eg 4 00000 50 0000 2,00000,0 eg 40.0000 500.000 2.000.000		B3 B3
	C B A no correct calculations seen		B0

5	6*a*	B1	
	Additional Guidance		

6	3×42 or 126 or 5×42 or 210	M1	implied by 121 or 190 or 84
	$3 \times 42 - 5$ or 121 or $5 \times 42 - 20$ or 190	M1dep	oe
	69 or 69.00(p)	A1	69p is A0
	Additional Guidance		
	121 or 190 seen		M1M1
	121 ÷ 3 or 190 ÷ 5		M1M1A0
	Do not allow a misread of the discounts		
	Follow through the correct discount for their misread of a dress price eg for a misread of £42 as £24 $24 \times 3 = 72$ and no discount required so M1 max but $24 \times 5 = 120$ and $120 - 5 = 115$ could score M1M1		
	A misread of the number of dresses must be > 3 for Amira and > 5 for Bobbi		

7	£15	B1	
	Additional Guidance		

8	54	B2	B1 $(c =) -6$ or $(d =) -9$ or $(cd =) -\frac{1512}{-28}$ oe fraction or $(cd =) \frac{1512}{28}$ oe fraction
	Additional Guidance		
	Answer 54 with any or no working		B2
	$(c =) -6$ or $(d =) -9$ seen even if not subsequently used		B1
	$(c =) -6$ or $(d =) -9$ may be seen by the given calculations		B1
	$250 - 16^2 \times -9 = 2554$		B1
	$250 - 16^2 \times \frac{18 \times 14}{-28} = 2554$		B0
	Answer 2554 with no working		B0

9	All 3 correct	B3	B1 for each box in Column P correctly matched
	Additional Guidance		
	Connections do not have to be straight lines		
	Two or more lines from a box in Column P is choice so is incorrect for that box		
	Column P / **Column Q** $a^2 \times a$ → $5a$ $2a \times 3$ → $6a$ $12a^2 \div 2$ → $6a^2$ $10 \times \frac{1}{2}a^2$ → $5a^2$		B3

10	$3 \times c \times d$	B1	

11 (a)	$4x^2$	B1	
	Additional Guidance		

12 (a)	5×60 or 300 or $60 \div 6$ or 10 or $\frac{5}{6}$ (hours) or 0.83(3...) (hours) or $\frac{50}{60}$ (hours) or $60 \div \frac{6}{5}$	M1	oe
	50	A1	
	Additional Guidance		
	$5 \times 60 \times 6$		M0
12 (b)	✓ It is shorter than the answer to part (a) ☐ It is the same as the answer to part (a) ☐ It is longer than the answer to part (a)	B1	

13	**Alternative method 1**		
	1.5 × 1000 or 1500	M1	oe
	their 1500 – 650 or 850	M1dep	oe eg 1000 – 650 + 500
	850 millilitres	A1	oe eg 850 ml
	Alternative method 2		
	650 ÷ 1000 or 0.65(0)	M1	oe
	1.5 – their 0.65(0) or 0.85(0)	M1dep	oe eg 1 – 0.65 + 0.5
	0.85(0) litres	A1	oe eg 0.85(0) l
	Alternative method 3		
	1.5 × 100 or 150 and 650 ÷ 10 or 65	M1	oe
	their 150 – their 65 or 85	M1dep	oe eg 100 – 65 + 50
	85 centilitres	A1	oe eg 85 cl
	Additional Guidance		
	Ignore incorrect conversion attempt if correct answer has been seen		
	850 on answer line with 850 ml in working		M1M1A1
	1.5 – 650 = 850 ml		M1M1A1
	1.5 – 650 = 0.85(0) l		M1M1A1
	1.5 – 650 = 850		M1M1A0
	1.5 – 650 = 0.85(0)		M1M1A0
	Condone incorrect spelling – mark intention		

Q	Answer	Mark	Comments
14	2	B1	

Q	Answer	Mark	Comments
15	$3x$	B1	

Q	Answer	Mark	Comments
16	–40	B1	
	Additional Guidance		
	Do not accept +–40		

Q	Answer	Mark	Comments
17 (a)	31	B1	

Q	Answer	Mark	Comments
17 (b)	26.04	B1	

Q	Answer	Mark	Comments
17 (c)	2604 + 31 or Valid attempt to multiply 31 by 85	M1	from traditional method their 155 + their 2480 or their 85 + their 2550 at least one correct and placeholder of zero correct or implied from grid method their 2400 + their 150 + their 80 + their 5 (at least three correct) from Chinese / Napier's bones method at least three values correct from 2/4, 1/5, (0)/8 and (0)/5 and total calculated for each diagonal with at least one carrying figure placed correctly
	2635	A1	

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="8">18</td><td>2827.18</td><td>B1</td><td></td></tr>
<tr><td>2778.21</td><td>B1ft</td><td>ft their 2827.18 – 48.97</td></tr>
<tr><td>1135.72</td><td>B1ft</td><td>ft their 2778.21 – 1642.49</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="3">
<table>
<tr><th>Date</th><th>Description</th><th>Credit (£)</th><th>Debit (£)</th><th>Balance (£)</th></tr>
<tr><td>01/05/2020</td><td>Starting balance</td><td></td><td></td><td>670.43</td></tr>
<tr><td>08/05/2020</td><td>Salary</td><td>2156.75</td><td></td><td>2827.18</td></tr>
<tr><td>11/05/2020</td><td>Water bill</td><td></td><td>48.97</td><td>2778.21</td></tr>
<tr><td>18/05/2020</td><td>Mortgage payment</td><td></td><td>1135.72</td><td>1642.49</td></tr>
</table>
</td><td>B1B1B1</td></tr>
<tr><td colspan="2">All three correct B1 values must be in the correct place for B1B1B1</td><td></td></tr>
<tr><td colspan="2">2827.18 and 2778.21 and 1135.72 but not all of them in the correct place can only score 2 marks</td><td></td></tr>
<tr><td colspan="2">Condone £ and p on values</td><td></td></tr>
<tr><td colspan="2">Condone incorrect money notation for ft eg 2827.27 – 48.97 = 2778.3</td><td>B0B1ft</td></tr>
</table>

Q	Answer	Mark	Comments
19	**Alternative method 1**		
	217 – 145 or 72	M1	
	their 72 + 59	M1dep	oe eg 72 – –59
	131	A1	
	Alternative method 2		
	217 + 59 or 276	M1	oe eg 217 – –59
	their 276 – 145	M1dep	
	131	A1	
	Additional Guidance		
	M1 may be awarded for correct work, with no or incorrect answer, even if this is seen amongst multiple attempts		
	217 – 145 + 59 or 217 – 86		M1M1
	217 + 145 + 59		M1M0
	217 – 145 – 59		M1M0
	217 – 204 implies 217 – 145		M1M0
	145 – 59 or 86 without further correct working		M0

Q	Answer	Mark	Comments
20	72 × 28 or 2016 or 16 × 18 or 288	M1	oe
	$\frac{72\times28}{16\times18} = 7$ or 2016 and 288 and 7	A1	oe
	Additional Guidance		
	Ignore further work alongside a correct answer		

Q	Answer	Mark	Comments
21 (a)	30	B1	

Q	Answer	Mark	Comments
21 (b)	–2	B1	

Q	Answer	Mark	Comments
21 (c)	–9	B1	

Q	Answer	Mark	Comments
22 (a)	34	B2	B1 (60 ÷ 2 =) 30 or (their 60 ÷ 2) + 4 evaluated
	Additional Guidance		
	Condone poor notation eg 60 ÷ 2 = 30 + 4 = 34	B2	
	60 ÷ 2 = 20, answer 24 60 ÷ 2 = 20, 20 + 4 = 25 60 ÷ 2 = 20, 20 + 4 (no attempt at evaluation)	B1 B1 B0	
	Condone 2 ÷ 60 = 30 (recovery seen)	B1	
	60 ÷ 6 = 10	B0	

Q	Answer	Mark	Comments
23	120	B1	

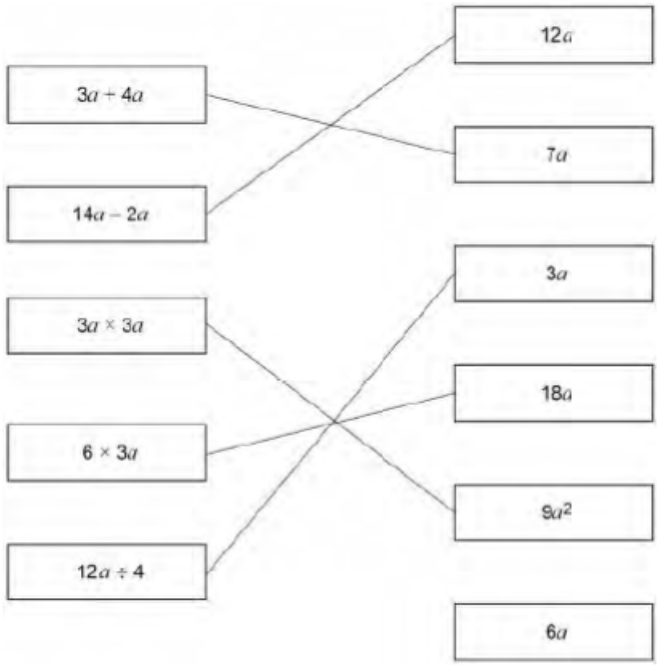
Q	Answer	Mark	Comments
24	7 (kg) 200 (g) + 650 or 7200 + 650 or 7.2(00) + 0.65(0) or 7850 seen or 7.85(0) seen or 850 seen or 0.85(0) seen	M1	
	7 kilograms 850 grams	A1	SC2 7.85(0) kilograms 7850 grams
	Additional Guidance		
	850 may be seen embedded eg Answer 29.75 kilograms 850 grams		M1A0
	7 kg 850 g seen in working but different answer		M1A0
	7.2 + 650 with no other creditworthy work		M0A0

Q	Answer	Mark	Comments
25	125 and 17 or 5^3 and 17 or 5 and 5 and 5 and 17	B2	together in any order eg 125 × 17 or 17 × 5^3 or 5, 5, 5, 17 or 2125 ÷ 17 = 125 or 2125 ÷ 125 = 17 B1 at least three of 8, 27, 64, 125, 216, 343, 512, 729, 1000, 1331, 1728, 2197 etc (allow 2^3, 3^3, 4^3 etc) or all four of 11, 13, 17, 19 (ignore any numbers not between 10 and 20) or (cube number > 1) × (prime number between 10 and 20) or 2125 ÷ (cube number > 1) or 2125 ÷ (prime number between 10 and 20)

Additional Guidance	
B1 may be awarded for correct work with no, or incorrect answer, even if this is seen amongst multiple attempts	
B2 responses may be seen on a factor tree	
B1 for three cube numbers given in index form – evaluations can be ignored eg 4^3 5^3 6^3 scores B1 with no evaluations or with incorrect evaluations	
B1 for multiplications or divisions – evaluation can be ignored eg1 2^3 × 13 scores B1 with no evaluation or evaluated incorrectly eg2 2125 ÷ 27 scores B1 with no evaluation or evaluated incorrectly eg3 2125 ÷ 11 scores B1 with no evaluation or evaluated incorrectly	
125 and 17 seen in multiple attempts is B2 if 2125 included eg 125 × 17 = 2125 or 2125 ÷ 17 = 125 or 2125 ÷ 125 = 17 seen amongst multiple attempts	B2
125 and 17 seen in multiple attempts is B1 if 2125 not included eg 125 × 17 seen amongst multiple attempts	B1
11 13 15 17 19 does not score B1 unless 11 13 17 19 selected	
Incomplete list eg 11 13 19 does not score B1	

Q	Answer	Mark	Comments
26 (a)	12 or +12	B1	

Q	Answer	Mark	Comments
26 (b)	–30	B1	

Q	Answer	Mark	Comments
27	All 4 correct	B4	B1 for each box correctly matched
	Additional Guidance		
			
	Connections do not have to be straight lines		
	The line from the second box on the left was given so do not count it		
	Two or more lines from one box on the left is choice so incorrect for that box		

Q	Answer	Mark	Comments
28 (a)	6 × 4 or 24 or 11 × (12 – 4) or 11 × 8 or 88	M1	oe
	112	A1	
	Additional Guidance		
	112.00(p)		M1A1
	112.0		M1A0

28 (b)	**Alternative method 1** Works in min or hrs for 9 episodes and 1 episode		
	9×50 or 450 or $9 \times \frac{50}{60}$ or $\frac{450}{60}$	M1	oe eg $9 \times \frac{5}{6}$ or $\frac{45}{6}$ or $\frac{15}{2}$ or 7.5
	$60 + 42$ or 102 or $\frac{102}{60}$ oe fraction or 1.7	M1	552 or 9.2 implies M1M1
	9 hours 12 minutes	A1	SC2 9 h 32 min or 6 h 32 min or 9 h 20 min
	Alternative method 2 Works in min or hrs for 9 episodes and converts to hrs and min		
	9×50 or 450 or $9 \times \frac{50}{60}$ or $\frac{450}{60}$	M1	oe eg $9 \times \frac{5}{6}$ or $\frac{45}{6}$ or $\frac{15}{2}$ or 7.5 implied by 7 h 30 min
	7 h 30 min	M1	ft conversion of their 450 to hours and minutes if their $450 > 60$ or their $\frac{450}{60}$ to hours and minutes if their $\frac{450}{60} > 1$
	9 hours 12 minutes	A1	SC2 9 h 32 min or 6 h 32 min or 9 h 20 min
	Additional Guidance		
	7 h 50 min + 1 h 42 min = 9 h 32 min		SC2
	4 h 50 min + 1 h 42 min = 6 h 32 min		SC2
	9.2 h = 9 h 20 min		SC2

Q	Answer	Mark	Comments
29	**Alternative method 1**		
	60 + 70 + 85 or 215	M1	
	1000 ÷ 5 or 200 or 1000 ÷ 4 or 250	M1	oe eg $\frac{1}{5} \times 1000$
	200 and 215 and 250	A1	
	Alternative method 2		
	60 + 70 + 85 or 215 or 1 ÷ 5 or 0.2 or 1 ÷ 4 or 0.25	M1	oe do not accept $\frac{1}{5}$ or $\frac{1}{4}$
	their 215 ÷ 1000 or 0.215 or their 215 × 4 or 860 or their 215 × 5 or 1075	M1dep	oe eg $\frac{215}{1000}$ 0.86 implies 860 1.075 implies 1075
	0.215 and 0.2 and 0.25 or 860 and 1075 and 1000 or 0.86 and 1.075 and 1	A1	oe decimals, percentages or fractions with a common denominator

29 cont	**Alternative method 3**		
	60 ÷ 1000 or 0.06 or 70 ÷ 1000 or 0.07 or 85 ÷ 1000 or 0.085 or 1 ÷ 5 or 0.2 or 1 ÷ 4 or 0.25	M1	oe do not accept $\frac{1}{5}$ or $\frac{1}{4}$
	their 0.06 + their 0.07 + their 0.085 or 0.215	M1dep	oe their 0.06 and their 0.07 and their 0.085 must all be from correct methods
	0.215 and 0.2 and 0.25	A1	oe decimals, percentages or fractions with a common denominator
	Additional Guidance		
	Up to M2 may be awarded for correct work, with no answer or incorrect answer, even if this is seen amongst multiple attempts		

Q	Answer	Mark	Comments
30 (a)	40 + 90 – 32 – 38 or 40 + 90 or 130 or 32 + 38 or 70 or 40 – 32 or 8 or 90 – 38 or 52	M1	oe
	60	A1	
	Additional Guidance		
	Check table for working		
	Up to M1 may be awarded for correct work, with no or incorrect answer, even if seen amongst multiple attempts		

Q	Answer	Mark	Comments
31 (a)	30	B1	

Q	Answer	Mark	Comments
31 (b)	6420	B1	

Q	Answer	Mark	Comments
32 (a)	1000 or 10^3	B1	
	Additional Guidance		
	Allow commas but not decimal points eg 1,000 or 10,00 eg 1.000 or 10.00	 B1 B0	

Q	Answer	Mark	Comments
32 (b)	4.7 or $\frac{47}{10}$ or $4\frac{7}{10}$	B1	
	Additional Guidance		
	Allow extra zeros eg 4.70	B1	

Q	Answer	Mark	Comments
32 (c)	$\frac{1}{4}$	B1	oe fraction eg $\frac{2}{8}$
	Additional Guidance		
	0.25	B0	

Q	Answer	Mark	Comments
32 (d)	19 19 or –19 –19	B1	accept $\sqrt{361}$ $\sqrt{361}$
	Additional Guidance		
	Condone 19 only in one box if other box is blank	B1	
	Condone –19 only in one box if other box is blank	B1	
	Condone $\sqrt{361}$ only in one box if other box is blank	B1	

Q	Answer	Mark	Comments
33 (a)	$\frac{165+567}{12}$ or $\frac{732}{12}$	M1	oe
	61	A1	SC1 212.25
	Additional Guidance		
	Only 165 + 567 ÷ 12 with brackets missing		M0A0
	61.00		M1A1
	61.0		M1A0

Q	Answer	Mark	Comments
33 (b)	**Alternative method 1**		
	$50 = \frac{165+x}{15}$ or 50 × 15 or 750 seen	M1	oe eg 750 = 165 + cost of minibus any letter or symbol or word(s)
	50 × 15 – 165	M1dep	oe
	585	A1	SC1 915
	Alternative method 2		
	165 ÷ 15 or 11	M1	oe
	(50 – their 11) × 15 or 39 × 15	M1dep	oe
	585	A1	SC1 915
	Additional Guidance		
	Up to M2 may be awarded for correct work with no answer, or incorrect answer, even if this is seen amongst multiple attempts		
	(165 + any value) ÷ 15 does not imply M1 unless set up as an equation for the first mark of Alt 1		
	Allow 12 as a misread for 15		

Q	Answer	Mark	Comments
34 (a)	One example that would give a positive answer	B1	eg $-2 + 5 (= 3)$ or $5 + -2 (= 3)$
	Additional Guidance		
	Evaluation is not required but if given must be correct		
	Allow two or more correct examples eg $-1 + 5 = 4$ and $-4 + 5 = 1$		B1
	Do not ignore an incorrect example alongside a correct example eg1 $-1 + 5 = 4$ and $-7 + 5 = -2$ ($-7 + 5$ is an incorrect example) eg2 $-1 + 5$ and $-7 + 5$ eg3 $-5 + 5 = 0$ and $-2 + 5 = 3$ ($-5 + 5$ is an incorrect example) eg4 $-2 + 5 = 3$ and $-4 + 5 = -9$ (-9 is an incorrect evaluation)		B0 B0 B0 B0
	Allow an example in words eg five added to negative four (is one)		B1
	The number could be -2		B1
	Allow brackets around negative numbers eg $5 + (-2)$		B1
	$5 - 2 (= 3)$		B1
	$-5 + 5 = 0$		B0

Q	Answer	Mark	Comments
34 (b)	One example that would give a negative answer	B1	eg $-6+5\ (=-1)$ or $5+-6\ (=-1)$
	Additional Guidance		
	Evaluation not required but if given must be correct		
	Allow two or more correct examples eg $-7+5=-2$ and $-6+5=-1$		B1
	Do not ignore an incorrect example alongside a correct example eg1 $-7+5=-2$ and $-1+5=4$ ($-1+5$ is an incorrect example) eg2 $-7+5$ and $-1+5$ eg3 $-5+5=0$ and $-6+5=-1$ ($-5+5$ is an incorrect example) eg4 $-9+5=-4$ and $-8+5=-13$ (-13 is an incorrect evaluation)		B0 B0 B0 B0
	Allow an example in words eg five added to negative ten (is negative five)		B1
	The number could be -6		B1
	Allow brackets around negative numbers eg $5+(-8)$		B1
	$5-6\ (=-1)$		B1
	$-5+5=0$		B0

Q	Answer	Mark	Comments
34 (c)	One example that shows the statement is not correct	B1	eg $-3 \times 2 (= -6)$ or $2 \times -3 (= -6)$
	Additional Guidance		
	Evaluation not required but if given must be correct		
	Allow two or more correct examples eg $-7 \times 2 = -14$ and $-6 \times 2 = -12$		B1
	Do not ignore an incorrect example alongside a correct example eg1 $-5 \times 2 = -10$ and $4 \times 2 = 8$ (4×2 is an incorrect example) eg2 -4×2 and 4×2 eg3 $-5 \times 2 = -10$ and $-8 \times 2 = -10$ (-10 is an incorrect evaluation)		B0 B0 B0
	Allow an example in words eg 0 doubled (is 0)		B1
	The number could be -6		B1
	0×2		B1
	$0 + 0$		B1
	$-1 + -1 (= -2)$ or $-1 - 1 (= -2)$		B1
	$-1^2 = -2$		B0
	-1^2		B0

Q	Answer	Mark	Comments
35(a)	40	B1	condone 040

Q	Answer	Mark	Comments
35(b)	624	B2	B1 answer ending with units digit 4 or addition method from 438 with no more than one error or shows correct "borrowing" with no more than one error

Q	Answer	Mark	Comments
36(a)	61	B1	

Q	Answer	Mark	Comments
36(b)	40.87	B1	

Q	Answer	Mark	Comments
36(c)	4095 + 63 or 4221 – 63 or (4095 + 4221) ÷ 2 or 8316 ÷ 2 or Valid attempt to multiply 63 by 66 with no conceptual error	M1	oe from traditional method their 378 + their 3780 or their 198 + their 3960 with at least one correct and placeholder of zero correct or implied from grid method their 3600 + their 360 + their 180 + their 18 (at least three correct) from Chinese / Napier's bones method at least three values correct from 1/8, 1/8, 3/6 and 3/6 and total calculated for each diagonal with at least one carrying figure placed correctly
	4158	A1	

Q	Answer	Mark	Comments
37	All 3 correct boxes indicated Odd Even Cannot tell	B3	in that order B1 for each correct box
	Additional Guidance		
	Allow any unambiguous indication eg crosses in all 3 correct boxes with all other boxes blank	B3	
	More than one box ticked in a row	B0	

Q	Answer	Mark	Comments
38(a)	9.03	B1	
	Additional Guidance		
	9.03p	B1	
	903p on the answer line	B1	
	903 on the answer line with £ not crossed out	B0	

Q	Answer	Mark	Comments
38(b)	2.56	B1	
	Additional Guidance		
	2.56p	B1	
	256p on the answer line	B1	
	256 on the answer line with £ not crossed out	B0	