EXPERT TUITION

Maths Questions By Topic:

Number
Mark Scheme

Edexcel GCSE (Foundation)

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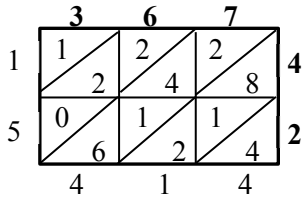
Question	Answer	Mark	Mark scheme	Additional guidance
1	30	B1	cao	
2	–10, –7, –2, 0, 1, 8	B1	Accept the reverse order, eg 8, 1, 0, –2, –7, –10	
3	0.09	B1	cao	Accept an answer of .09
4	330	B1	cao	
5	49	B1	cao	
6	14	M1 A1	for 42 ÷ 3 cao	
7	No with correct figures	P1 P1 A1	for 1.20 + 0.70 + 2.30 + 2.30 (= 6.5(0)) **or** for adding 3 correct costs **or** for 2 correct costs plus change **or** for 10 – 2 correct costs for a complete correct method, eg 10 – "6.50" **or** 10 – 1.20 – 0.70 – 2.30 – 2.30 (=3.50) **or** 1.20 + 0.70 + 2.30 + 2.30 + 3.30 (=9.80) for No with correct figures, eg 3.5(0) **or** 9.8(0)	Could work in £ or p for P marks Accept 2.30 + 2.30 (= 4.60) as 2 costs Accept absence of "0" in pence column
8	7	P1 A1	for process to find temperature on Wednesday, eg 5 – 10 + 3 (= –2) **or** –10 + 3 **or** 10 – 3 for 7, accept –7	Be aware of correct use of a number line

Question	Answer	Mark	Mark scheme	Additional guidance
9 (a)	15.414	M1	for a complete method with relative place value correct including an intention to add all the appropriate elements of the calculation eg, 2 lines of the 1st method, internal numbers of grids, or complete structure shown of partitioning methods.	14680 734 15414  | | 300 | 60 | 7 | |---|---|---|---| | 40 | 12000 | 2400 | 280 | | 2 | 600 | 120 | 14 | 12000 + 2400 + 280 + 600 + 120 + 14 = 15414
		A1	for digits 15414	
		A1	(ft) dep on M1 for correct placement of the decimal point into their final answer	
(b)	37.4	M1	for a start to a method, eg 598.4 ÷ 16 (or 59.84 ÷ 1.6) = 3 (as a first digit)	A start to a repeated subtraction method or build-up method is acceptable if a correct first digit of 3 is found
		A1	for digits 374	
		A1	(ft) dep on M1 for correct placement of the decimal point into their final answer	

Question	Answer	Mark	Mark scheme	Additional guidance
10	$1\frac{8}{15}$	M2	for a complete method, eg $4 - 2 + \frac{3}{15} - \frac{10}{15}$ condoning error with one numerator **or** for $\frac{21}{5} - \frac{8}{3} = \frac{63}{15} - \frac{40}{15} (= \frac{23}{15})$ with no more than one error	
		(M1	for finding two fractions with a correct common denominator, with at least one correct corresponding numerator, eg $\frac{3}{15}, \frac{10}{15}$ **or** for converting both to improper fractions, eg $\frac{21}{5}, \frac{8}{3}$)	At least one improper fraction must be correct
		A1	$1\frac{8}{15}$ oe	Any equivalents must be a mixed number
11	7.15 and 7.25	B1	for 7.15 as the lower bound	
		B1	for 7.25 as the upper bound	Accept $7.24\dot{9}$ oe or 7.2499… oe

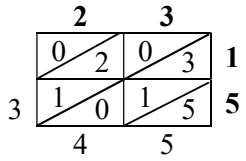
Question	Answer	Mark	Mark scheme	Additional guidance
12	0.309, 0.32, 0.35, 0.4	B1	for 0.309, 0.32, 0.35, 0.4	Accept written in reverse order: 0.4, 0.35, 0.32, 0.309
13	18	B1	cao	18 must be the only number selected for this award
14	5	B1	cao	
15	0.75	B1	cao	
16	700	B1	for 700 Accept 7 hundreds	
17	660	P1 P1 P1 A1	for a process to work out the **number** of large marbles eg 12 ÷ 4 (=3) **or** the **number** of small marbles eg 12 – [number of large marbles] **or** 12 × (1− ¼) (=9) (dep) for a process to work out the **weight** of large marbles eg "3" × 70 (=210) **or** to work out the **weight** of small marbles eg "9" × 50 (=450) for a complete process eg (12÷4) × 70 + 12 × (1− ¼) × 50 oe cao	[number of large marbles] could come from an incorrect method for finding $\frac{1}{4}$ of 12

Question	Answer	Mark	Mark scheme	Additional guidance
18	7	P1	for 750 × 9 (=6750) **or** 1 + 9 (=10) **or** 750 ÷ 1000 (= 0.75)	
		P1	(dep) for "6750" + 750 (=7500) **or** for "10" × 750 (=7500) **or** "0.75" × "1 + 9" (= 7.5)	
		A1	cao	
			Alternative	
		P1	for 100 + 900 (= 1000)	This can be implied by (1 litre of drink =) 100 (m*l*) of squash and 900 (m*l* of water)
		P1	(dep) for 750 ÷ 100 (= 7.5)	
		A1	cao	
19	4550 to 4800	M1	for rounding at least two figures to 800, 50, 300 or 290 (which could be evidenced through partial calculation)	Any attempt to find the exact answer gets NO marks even if followed by rounding
		M1	(dep) for a correct calculation using their rounded values eg. sight of 240000 (= 800 × 300) **or** 232000 (= 800 × 290) **or** 229100 (= 790 × 290) **or** 16 (= 800 ÷ 50) **or** 15.8 = (790 ÷ 50) **or** 6 (= 300 ÷ 50) **or** 5.8 = (290 ÷ 50)	Various operations possible
		A1	for answer in range 4550 to 4800	

Question	Answer	Mark	Mark scheme	Additional guidance
20	Shown	M1 M1 C1	for conversion to improper fractions eg. $\frac{7}{3}$ **or** $\frac{15}{4}$ (dep) for method to multiply fractions, eg. $\frac{7\times15}{3\times4}\left(=\frac{105}{12}\right)$ **or** $\frac{28\times45}{12\times12}\left(=\frac{1260}{144}\right)$ oe for complete working showing each stage as far as $\frac{35}{4}$ or $8\frac{9}{12}$	Need not be shown with operators
21	0.000 672, 67.2×10^{-4} 6.72×10^{5} 672×10^{4}	B2 (B1	cao for correct conversions to same format, condoning one error. **or** for 3 numbers in the correct order (ignoring one) **or** for all 4 numbers listed in reverse order)	Accept correct numbers in any form

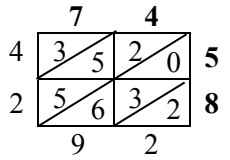
Question	Answer	Mark	Mark scheme	Additional guidance
22	70 or 7 tens	B1	for 70 (or seventy) or 7 tens (or seven tens)	Condone any incorrect spelling provided the intention is clear
23	4.6	B1	cao	
24	3170	B1	cao	
25	$\frac{2}{5}$	B1	cao	
26	400	P1 P1 A1	for finding the total weight of 4 blocks, eg 650 × 4 (= 2600) or 0.65 × 4 (= 2.6) **or** for using 1 kg = 1000g eg 650 ÷ 1000 (= 0.65) or 3 × 1000 (= 3000) for subtraction, eg. 3 × 1000 – "2600" or 3 – "2.6" (= 0.4) cao SC B1 for 2350	Writing 1 kg as 1000g is insufficient without it being used in a calculation
27	HHH HHT HTH HTT THH THT TTH TTT	M1 A1	for at least 4 correct different combinations for fully correct list with no extras or repeats	Accept words or unambiguous abbreviations For M1 ignore extras or repeats;

Question	Answer	Mark	Mark scheme	Additional guidance
28 (a)	No from correct figures	P1	for first step in process to solve the problem, eg find cost of 3 T-shirts, 25 × 3 (= 75) **or** eg find remaining money after just one purchase, eg 200 – 60 (= 140) or 200 – 25 (= 175)	Award this mark for addition of 2 or more items or for subtraction of one item or more from 200 eg 200 – 50 (= 150) etc.
		P1	for process to find total cost of trainers and T-shirts, eg 60 + "75" (= 135) **or** find total cost including cost of jacket, eg. 60 + "75" + 80 (= 215) **or** find the change after buying all 4 items, eg. 200 – 60 – 3 × 25 (= 65) oe	
		C1	for No from correct figures **Acceptable examples** No, needs 215 No, only has 65 left No, needs 15 more **Not acceptable examples** Yes ….	Figures can be given without units ($)
(b)	Explanation	P1	for a start to a method, eg. approximating 0.749 to 0.7, 0.74, 0.75 or 0.8	
		C1	for explanation **Acceptable examples** 0.7 × 60 = 42 [is an underestimate] 0.74 × 60 = 44.4(0) [is an underestimate] . **Not acceptable examples** 0.75 × 60 = 45 [is an overestimate] 0.8 × 60 = 48 [is an overestimate]	For full marks, any calculations must be correct. No statement in words is needed.

Question	Answer	Mark	Mark scheme	Additional guidance
29	345	M1	for complete method with relative place value correct including addition of all the appropriate elements of the calculation. 2 3 0 1 1 5 3 4 5  | | 20 | 3 | | 10 | 200 | 30 | | 5 | 100 | 15 | **200 + 30 + 100 + 15 = 345** 23 + 23 + 23 + 23 + 23 = 115; 115 + 115 + 115 = 345	Accept all equivalent methods if complete. Partitioning methods may show a complete method which has been broken down into multiple stages. Multiple addition of 23 (or 15) acceptable if the correct number added is shown, and an attempt at addition is clear.
		A1	cao	

Question	Answer	Mark	Mark scheme	Additional guidance
30	1080	M1	for method to write one number as a product of prime factors (condone one division error in method chosen), eg. one complete factor tree or 2, 2, 3, 3, 3 or 2, 2 , 2, 3, 5 or for listing at least 5 multiples of either number (condone one error) or for any common multiple (≠ 1080), eg. 12960 (= 108 × 120)	Accept first 5 multiples if all correct or one error in first 6 multiples
		M1	for method to write both numbers as a product of prime factors (condone a total of one division error) eg. two complete factor trees or 2, 2, 3, 3, 3 **and** 2, 2, 2, 3, 5 or lists of multiples of the two numbers, at least 5 of each, one of which includes 1080	For the list not containing 1080, accept first 5 multiples if all correct or one error in first 6 multiples
		A1	cao SC B2 for any product that would lead to 1080, eg $2^3 \times 3^3 \times 5$ or $12 \times 9 \times 10$	
31	$2\frac{1}{3}$	M1	for either $\frac{7}{4}$ oe or $\frac{4}{3}$ oe	
		M1	for method to find the product, eg $\frac{7\times4}{4\times3}$ or $\frac{21\times16}{12\times12}$ oe or for $\frac{28}{12}$ or $\frac{7}{3}$ oe	
		A1	for $2\frac{1}{3}$ or an equivalent mixed number	

Question	Answer	Mark	Mark scheme	Additional guidance
32	80	B1	cao	
33	23 or 29	B1	for 23 or 29	Do not award if any other numbers are included, but award if both 23 and 29 are shown.
34	11	B1	cao	
35	3000	P1 P1 P1 A1	for a correct step for travel or/and spending money eg 4 × 150 (=600) or 4 × 250 (=1000) or 150 + 250 (=400) for an appropriate step with the hotel price eg 7× 50 (=350) or 4 × 50 (=200) for combining at least two "costs" for 4 people for 7 nights eg 4 × 150 + 4 × 250 (=1600) or 4 × 150 + 7 × 4 × 50 (=2000) cao	Can be embedded eg 4×7×150 Can be 4×7×50 Must be correct process for two costs eg not 4 × 150 ×7 but may be 2 correct costs and one incorrect
36	$\frac{1}{4}, \frac{1}{3}, \frac{1}{2}, \frac{7}{12}, \frac{3}{4}$	M1 A1	converts fractions to a common equivalent form, at least two conversions correct eg fractions with a denominator of 12, decimals or percentages, **or** any 4 fractions in correct order cao	0.25, 0.33(…), 0.5, 0.58(…), 0.75 Accept list in reverse order for this mark Accept expressed in equivalent decimals or percentages or any other appropriate from or mixed forms

Question	Answer	Mark	Mark scheme	Additional guidance
37	4292	M1	for complete method with relative place value correct including addition of all the appropriate elements of the calculation	Working 592 3700 4292  70 | 4 50 | 3500 | 200 8 | 560 | 32 3500 + 560 + 200 + 32 = 4292
		A1	cao	
38 (a)	14	B1	for 14	
(b)	Explanation	C1	for explanation **Acceptable examples** she divided by 2 but should have multiplied by 2 there are 96 halves in 48 48 × 2 = 96 **Not acceptable examples** 24 × 2 = 48	
39 (a)	8	B1	cao	
(b)	125	B1	cao	

Question	Answer	Mark	Mark scheme	Additional guidance
40 (a)	$\frac{7}{15}$	M1	for suitable common denominator with at least one fraction out of two correct, eg $\frac{10}{15} - \frac{3}{15}$ oe	
		A1	oe	
(b)	$\frac{1}{2}$	M1	for method to multiply fractions, eg $\frac{2\times3}{3\times4}$, $\frac{8\times9}{12\times12}$ **or** to simplify, $\frac{1}{3}\times\frac{3}{2}$ or $\frac{2}{1}\times\frac{1}{4}$ **OR** for an answer equivalent to $\frac{1}{2}$ (unsimplified) eg $\frac{2}{4}$, 0.5	
		A1	cao	
41	18	M1	for listing factors of 72 and 90, at least 4 correct for each (with no more than 1 incorrect in each list), could be in factor pairs **OR** for the prime factors of 72 (2, 2, 2, 3, 3) **or** 90 (2, 3, 3, 5)	Factors of 72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72 Factors of 90: 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90
		A1	for 18 or 2×3^2 oe	2, 3^2 is not enough, it must be a product
			SC B1 for answer of 6 or 9 if M0 scored	

Question	Answer	Mark	Mark scheme	Additional guidance
42	0.02, 0.152, 0.2, 0.37, 0.4	B1	for correct order	Accept reverse order
43	5	B1	cao	
44	8000	B1	cao	
45 (a)	22	B1	cao	
(b)	8	B1	cao	
(c)	$7 \times (2 + 3) = 35$	B1	for correct placement of brackets	Allow alternative correct statements, eg $[7 \times (2 + 3)] = 35$
46	Yes (supported)	P1	starts process to find the number of tins or meals needed, eg $2 \times \frac{1}{4}$ $(= \frac{2}{4} = \frac{1}{2})$ or $14 \times \frac{1}{4}$ $(= \frac{14}{4}$ oe) or 2×14 (= 28) or $8 \div 2$ **or** to find the number of meals from 8 tins, eg $8 \div \frac{1}{4}$ (= 32)	Numbers may be expressed in decimal form
		P1	a complete process to find the number of tins needed, eg $14 \times \frac{2}{4}$ (= 7) **or** $8 \div 2$ and "$\frac{14}{4}$" **OR** to find the numbers of meals $8 \div \frac{1}{4}$ (= 32) and 2×14 (= 28) **or** $8 \div \frac{2}{4}$ (= 16)	
		C1	'Yes' from a comparison of correct values, eg 7 (and 8) **or** 32 and 28 **or** 16 (and 14) **or** $\frac{14}{4}$ and 4	Correct working needs to be accompanied by a statement confirming enough food has been bought.

Question	Answer	Mark	Mark scheme	Additional guidance
47	3 and 29 or 13 and 19	M1	for two numbers with a sum of 32, only one of which is prime, eg 5, 27 or 1, 31	Do not accept 1 as a prime number.
		A1	cao	
48 (a)	$\frac{10}{16}$	B1	cao	
(b)	$\frac{11}{12}$	M1	for $\frac{10}{12}$ **OR** for using a suitable common denominator other than 12 with at least one of the two fractions correct, eg $\frac{2}{24}+\frac{20}{24}$	
		A1	for $\frac{11}{12}$ oe	Accept any equivalent fraction
49	9	M1	for a correct first step, using the laws of indices to simplify eg 3^2 or. 3^{7+-2} or 3^{7-3} or 3^{-2-3} OR for using exact values, eg. $2187 \times \frac{1}{9}$ (= 243) or 2187 ÷ 27 (= 81) or $\frac{1}{27\times9}$ $(=\frac{1}{243})$	
		A1	cao	
50 (a)	16 to 20	P1	for using time = $\frac{\text{distance}}{\text{speed}}$, eg $\frac{1}{200}$ or $\frac{1}{213}$ **or** for 1 hour = 60 × 60 (= 3600) seconds	
		P1	complete process, eg $\frac{1}{200} \times 60 \times 60$ oe or $\frac{1}{213} \times 60 \times 60$	Calculation could be done in stages.
		A1	for answer in range 16 to 20	
(b)	decision with reason	C1	(dep on correct use of time = $\frac{\text{distance}}{\text{speed}}$) for reason related to their response to part(a), eg overestimate as speed rounded down	

Question	Answer	Mark	Mark scheme	Additional guidance
51	6000	B1	cao	Accept 6 thousand or six thousand
52 (a)	−6,−5,0,6,12	B1	for −6,−5,0,6,12 accept 12, 6, 0, −5,−6	
(b)	0.078,0.708, 0.78,0.87	B1	for 0.078, 0.708, 0.78, 0.87 accept 0.87, 0.78, 0.708, 0.078	Accept any additional '0's at the end of a decimal, eg 0.780 or 0.870
53	$\frac{3}{9}$	B1	for $\frac{3}{9}$ accept $\frac{1}{3}$	
54	14	B1	cao	
55	535	P1	for a start to the process eg 1280+640+220 (=2140) **or** 1280÷4 (=320) **or** 640÷4 (=160) **or** 220÷4 (=55)	
		P1	for a full process to find cost per adult eg "2140" ÷ 4 **or** "320" + "160" + "55"	Can have arithmetical error as long as the complete processes, in the correct order, are present.
		A1	cao SC: B1 for answer of 1495 if P0 scored	
56 (a)	Example	C1	for a correct example, eg 3 × 4 = 12 or 12 ÷ 3 = 4 **or** a statement eg '3 is a factor of 12' or '1 is a factor of every number'	This may be seen, for example, in a factor tree or in a list of factors, but there must be no incorrect factors on the tree or in the list
(b)	Example	C1	for an example, eg 23 **or** a statement eg. 'the tens digit may be even' or 'the last digit only needs to be odd'	

Question	Answer	Mark	Mark scheme	Additional guidance
57	3	P1 P1 A1	for a start to the process eg 240 − (2 × 45) (= 150) oe **or** (2 × 45) + 40 (= 130) oe for complete process eg "150" ÷ 40 (= 3.75) – can be implied by 40 + 40 + 40 = 120 **or** "130" + 40 + 40 (= 210) cao	 Considering just one piece of 45 cm is not a misread but (240 – 45) ÷ 40 (= 4.875) oe should be awarded P1 only
58	Isabel (supported)	P1 P1 A1 C1	for process to work with $\frac{3}{4}$ eg $1-\frac{3}{4}$ $(=\frac{1}{4})$ oe, eg 25% or $\frac{25}{100}$ **or** $\frac{3}{4}$ = 75% or $\frac{75}{100}$ **or** value of salary (say 1000) × 3 ÷ 4 (= 750) for process to work with ratio 3 : 7 eg $\frac{3}{3+7}$ oe **or** $\frac{7}{3+7}$ oe **or** value of salary (say 1000) ÷ (3+7) (= 100) for (28(%)), 25(%) and 30(%) **or** 72(%), 75(%), 70(%) **or** 0.28, 0.25, 0.3 **or** for using value of salary (say 1000) giving 280, 250, 300 **or** 720, 750, 700 (dep P2) for Isabel or ft their comparative values	 "Isabel" alone without supported evidence, gets 0 marks.

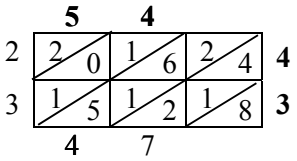
Question	Answer	Mark	Mark scheme	Additional guidance
59 (a)	$\frac{95}{28}$	M1	for a method to add using common denominators with at least one fraction correct (matching numerator with common denominator) eg $\frac{60}{28}+\frac{35}{28}$ **or** $(2)\frac{4}{28}+(1)\frac{7}{28}$	Use of decimals gets no credit unless it leads to a correct fraction
		A1	$\frac{95}{28}$ oe eg $3\frac{11}{28}$	
(b)	$1\frac{3}{5}$	M1	for $\frac{6}{5}\times\frac{4}{3}$ **or** $\frac{24}{20}\div\frac{15}{20}$ **or** $\frac{8}{5}$ oe eg $1\frac{9}{15}$	Use of decimals gets no credit unless it leads to a correct fraction
		A1	cao	
60	30	P1	for full process to find the number of bags sold eg $5 \times 1000 \div 250$ (= 20) **OR** for process to find selling price of 1 kg of sweets eg 0.65×4 (= 2.60)	This could be by repeated addition Calculations can be in £ or pence
		P1	for [number of bags] × 0.65 **or** "20" × 0.65 (= 13) **or** "2.60" × 5 (= 13) **OR** for $10 \div$ "20" oe (= 0.50) **OR** for 0.65×4 (= 2.60) **and** $10 \div 5$ (= 2)	[number of bags] can only come from $5 \times 10 \div 250$ (= 0.2) or $5 \times 100 \div 250$ (= 2) or $5 \div 250$ (= 0.02)
		P1	(dep on previous P1) for a process to find the percentage profit eg ("13" – 10) ÷ 10 × 100 **or** (0.65 – "0.50") ÷ "0.50" × 100 **or** ("2.60" – "2") ÷ "2" × 100 **OR** "13" ÷ 10 ×100 (= 130) oe	3/10 or 0.3 is not enough but should be awarded 2 marks Award P3 for 130(%)
		A1	cao	

Question	Answer	Mark	Mark scheme	Additional guidance
61 (a)	Estimated value	P1	for using a rounded value in a correct process eg 3000 ÷ 15 **or** 15 × 8 **or** 20 × 8	Their rounded value must be used in a calculation Rounding may appear after a correct process eg 15.12 × 8 = 120.96 ≈ 100 followed by eg 3069.25 ÷ 100
		P1	for a full process to find the number of days eg "3000" ÷ "15" ÷ "10" (= 20) **or** "3000" ÷ "15" ÷ 8 (= 25)	Accept 3069.25 ÷ 15.12 ÷ 8 oe
		A1	for a correct answer following through their rounded values	
(b)	Explanation	C1	eg less days required **or** it doesn't affect the answer because I would still round 16.27 down to 15 (or up to 20)	Refers to time taken

Question	Working	Answer	Mark	Notes
62		72	B1	cao
63		−9 , 2	B1	cao accept either order.
64		Identifies error in method	C1	Explanation of error eg she should have multiplied 348 by 2 not divided
65		$\frac{5}{7}$	P1	for $\frac{7}{5} = 1.4$ **or** $\frac{5}{7} = 0.7..$ **or** compares $\frac{1}{7}$ to $\frac{1}{5}$ **or** compare $\frac{5}{7}$ to 1 eg $1-\frac{5}{7}$ $(=\frac{2}{7})$ **or** compare $\frac{7}{5}$ to 1 eg $\frac{7}{5} = 1\frac{2}{5}$ **or** eg $\frac{49}{35}$ **or** $\frac{14}{35}$ **or** $\frac{25}{35}$ oe
		supported	P1	for $\frac{7}{5} = 1.4$ and $\frac{5}{7} = 0.7..$ **or** compares $\frac{5}{7}$ to 1 eg $1-\frac{5}{7}$ $(=\frac{2}{7})$ and $\frac{7}{5}$ to 1 eg $\frac{7}{5} = 1\frac{2}{5}$ **or** two correct fractions with common denominator eg $\frac{49}{35}$ and $\frac{25}{35}$
			C1	for $\frac{5}{7}$ with supporting evidence
66		Explanation	C1	eg States over-estimated for both values
67		Ami	M2	for an approximate calculation eg $\frac{600}{16+5}$ **or** $\frac{600}{21}$ **or** $\frac{600}{20}$ **or** $\frac{600}{20+5}$ **or** $\frac{600}{25}$ **or** $\frac{600}{25+5}$ **or** $\frac{600}{30}$ **or** $\frac{595}{20}$
		with estimate	(M1	for using 600 **or** 5 **or** 4)
			C1	Ami's answer /27.1115 is closest with accurately calculated figure from approximation
68		1.8×10^{-3}	M2	for $\frac{6\times10^{-2}\times3\times10^{-4}}{1\times10^{-2}}$ or 18×10^{-4} or 0.0018 as the answer
			(M1	for 6×0.0003 **or** 0.06×0.03 **or** 1.8×10^{n} ($n \neq -3$) **or** $0.000018 \div 0.01$ **or** rewriting one number in standard form)
			A1	cao

Question	Working	Answer	Mark	Notes
69 (a)	$\frac{8}{20}+\frac{5}{20}$	$\frac{13}{20}$	M1	for suitable common denominator with one fraction out of two correct **or** 0.4 + 0.25
			A1	for $\frac{13}{20}$ **or** 0.65 oe
(b)		$\frac{1}{8}$	B1	Accept 0.125
70		2×2×3×3	M1	for complete method to find prime factors; could be shown on a complete factor tree with no more than 1 arithmetic error or 2,2,3,3,(1)
			A1	for 2×2×3×3 oe

Question	Working	Answer	Mark	Notes
71		16	B1	cao
72		7.265	B1	cao
73		42	M1 A1	for showing method to work out 60% of 70, eg 0.6 × 70 **or** (70 ÷ 10) × 6 (= 42) cao
74		No (supported)	P1 P1 C1	process to work with either cost of 3 sausages e.g. 3 × 2.30 (=6.9(0)) **or** division of a cost by 3 process to work with costs of at least 3 of bread rolls, bread rolls, ketchup, change, sausages e.g. 2 × 1.50 + 1.60 **or** 1.50 + 1.60 + 0.30, **or** 10 – 1.50 – 1.60 − 0.30 **or** 10 – 1.50 – 1.50 – 1.60 E.g. No **and** (£)5.10 and (£)6.90 No **and** (£)5.40 and (£)6.90 No **and** (£)1.70 No **and** (£)11.50 **or** (£)11.80 **or** shows cost of sausages at £2.30 and cost of any 2 other items is greater than (or equal to) £10 NB can work in £ or p throughout. Condone 5.1 etc
75 (a)		$\frac{15}{32}$	B1	oe
(b)		$\frac{5}{12}$	M1 A1	uses a correct common denominator with at least one correct matching numerator e.g. $\frac{8}{12}$, $\frac{3}{12}$

Question	Working	Answer	Mark	Notes
76 (a)		6 to 8	M1	evidence of recall of area formula with correct radius e.g. $\pi \times 10^2$
			M1	calculation to find number of boxes, (area) ÷ (coverage figure)
			M1	(indep) evidence of estimation, eg π in range 3 to 3.2, or coverage figure of 40, 42, 45, 48 or 50
			A1	(dep on M3) answer in the range 6 to 8
(b)		underestimate	C1	e.g. (ft from (a)) underestimate: true area greater so could need more boxes. Must relate to estimation, not rounding of answer.
77		2×2×2×7	M1	for complete method to find prime factors; could be shown on a complete factor tree with no more than 1 arithmetic error
			A1	accept $2^3 \times 7$
78	21840 1638 23478  20000 + 1600 + 240 + 1500 + 120 + 1 = 23478	234.78	M1	for complete method with relative place value correct including addition of all the appropriate elements of the calculation e.g. two lines of 1st method, internal numbers of grids, or complete structure shown of partitioning methods
			A1	for digits 23478
			A1	(ft dep M1) for correct placement of the decimal point into their final answer

	500	40	6
40	20000	1600	240
3	1500	120	18

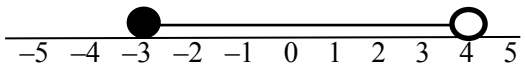
Question	Working	Answer	Notes
79		0.1,0.106,0.16,0.61	B1
80		$\frac{37}{1000}$	B1
81		39	B1
82		1, 2, 4, 5, 10, 20	M1 for at least 3 factors A1 for all factors with no additions
83		17	P1 start to process information eg. 130 ÷ 8 **or** repeated subtraction from 130 **or** repeated addition A1 16.25 **or** 16 remainder 2 **or** 128 **or** 136 C1 allow ft - interprets answer to round up to integer value
84		12	M1 M1 for 0.15 × 80 oe **or** 8 + 4 A1 cao
85		6	M1 for starting to list combinations A1 cao
86 (a)		2000	P1 Evidence of estimate eg. 400 or 20 used in calculation P1 complete process to solve problem A1
(b)		Overestimate with reason	C1 ft from (a) eg. overestimate as two numbers rounded up

Question	Working	Answer	Notes
87 (a)		$\frac{17}{35}$	M1 for common denominators with at least one numerator correct A1
(b)		$\frac{20}{9}$	M1 for $\frac{5}{3}\times\frac{4}{3}$ **or** $\frac{20}{12}\div\frac{9}{12}$ A1
88		32.968	M1 for correct method (condone one error) A1 for digits 32968 A1 ft (dep M1) for correct placement of decimal pt

Question	Working	Answer	Notes
89		4.44	B1 cao
90		90	B1 cao
91		−27	B1 cao
92 (a)		5412	B2 (B1 for any 4-digit even number using 4,5,1,2 **or** 5421)
(b)		45, 54, 41, 14, 42, 24, 51, 15, 52, 25, 12, 21	P1 starts to list systematically; at least 6 correct seen (ignore repeats) A1 lists all 12 numbers (condone inclusion of **all** repeats 44, 55 etc)
93 (a)		example	C1 for appropriate example shown
(b)		example	C1 conclusion
94		15561	M1 for complete method with relative place value correct (addition not necessary), allow 1 arithmetic error M1 (dep) for addition of all appropriate elements A1 cao
95 (a)		2000p-2600p	P1 evidence of estimate eg. 4 or 50 or 10 used in calculation P1 complete process to solve problem A1 2000p-2600p or £20-£26
(b)		under	C1 underestimate as values have been rounded down

Question	Working	Answer	Notes
96		32	B1
97 a		28	B1
b		1020	B1
c		−8	B1
98		15	M1 For start to scaling process eg 12÷8 or 10÷8 A1 15
99 a		$\frac{5}{24}$	B1
b		$\frac{5}{14}$	M1 For using a correct common denominator A1 For $\frac{5}{14}$ oe
c		$2\frac{2}{3}$	M1 for $\frac{4}{5}\times\frac{10}{3}$ oe A1 for $2\frac{2}{3}$ or $\frac{8}{3}$
100		8, 12, 20 **or** 4, 8, 28 **or** 4, 12, 24 **or** 4, 16, 20	P1 Adds 3 different multiples of 4 A1
101		$2^3 \times 3^2 \times 7$	M1 for at least 3 correct divisions by a prime factor (may be seen in a factor tree) M1 for 2, 2, 2, 3, 3, 7 (condone inclusion of 1); may be seen in a factor tree A1

Question	Answer	Mark	Mark scheme	Additional guidance
102	0.12, 0.21, 1.02, 1.20	B1	accept 1.20, 1.02, 0.21, 0.12	
103 (a)	25	B1	cao	
(b)	24	B1	cao	
104	780	P1 P1 A1	for 2500 – 940 (= 1560) **or** 2500 ÷ 2 (=1250) and 940 ÷ 2 (=470) for "1560" ÷ 2 **or** "1250" – "470" cao	
105	Explanation	C1	for explanation, **Acceptable examples** Answer should be 14 Should work out 3 × 4 first Alec should times first instead of adding Not used BIDMAS/BODMAS BIDMAS/BODMAS He has done it in the wrong order Alec needs to use brackets so 2 + (3 × 4) Because you always do multiplication or division first **Not acceptable examples** Because the answer is wrong It is 2 + (3×4) = 15 It needs brackets Because working out should only be one sum	

Question	Answer	Mark	Mark scheme	Additional guidance
106 (a)	1.844977205	M1	for 3.403(940887) or 3.717(526059) or 2.014(944168) or 1.84(...) or 1.8(...)	Accept consistent use of a comma to indicate a decimal point
		A1	for 1.844(977205)	Answer must be given to at least 3 decimal places rounded or truncated
(b)	1.84	B1	for 1.84 or ft from (a) provided answer to (a) has at least 3 dp	
107	$\frac{4}{9}, \frac{3}{5}, \frac{5}{8}, \frac{2}{3}$	M1	converts into decimals or percentages or equivalent fractions, at least 2 conversions correct **or** for any 3 fractions in correct order	0.44(...), 0.6, 0.625, 0.66(...)
		A1	for $\frac{4}{9}, \frac{3}{5}, \frac{5}{8}, \frac{2}{3}$	Accept in reverse order for this mark Accept expressed in equivalent decimals or percentages or fractions or in mixed numerical form
108	No (supported)	P1	for a process to find Rachel's share, eg 600 ÷ 5 × 2 (= 240)	
		P1	for process to find Samina's share eg (600 – "240") ÷ 4 (= 90)	
		P1	for a process to find either of Tom's share, eg 600 – "240" – "90" (= 270) **or** 3 × "90" (=270) **or** 600 ÷ 3 (= 200) for comparison purposes	Note This mark, if awarded for 200, may be the only mark awarded
		C1	for "No" and accurate figures eg 270 and 200 **or** 270 and 70 (difference)	"No" may be implied by a statement Answer only with no working, no marks
109 (a)	$x > -1$	B1	cao	
(b)	Diagram drawn	C2	for a fully correct diagram, eg 	
		(C1	for drawing a line from −3 to 4 **or** (indep) for an open circle at 4 **or** (indep) for a closed circle at −3)	Condone arrow heads or line ending to denote the 'end' of the line

Question	Answer	Mark	Mark scheme	Additional guidance
110	$\frac{37}{100}$	B1	or any other equivalent fraction	
111	29 000	B1	cao	
112	27	B1	cao	
113	L23, U23, L29, U29	B2 (B1	for all 4 outcomes with no extras or repeats for at least 2 correct outcomes out of at most 8 different outcomes **or** for indicating 23 and 29 are the only prime numbers between 20 and 30)	Pairs must be unambiguous and in the correct order of letter number
114	19	P1 P1 A1	for 4275 ÷ 28 (= 152(.678..)) **or** 153 **or** a build up to at least 150 × 28 (=4200) for "152" × 28 (= 4256) **or** "153" × 28 (=4284) **or** ("152.678.." – 152) (=0.678..) **or** 4275 ÷ "152" – 28(= 0.125) **or** 4275 – "4200" (=75) oe cao	Division may be seen as a build up method Use of 150× 28 or better for "4200"
115	58	P1 P1 P1 A1 SC B2 for an answer of 48	for a correct process to find the pass mark for the exam or either paper eg (60 + 90) ÷ 3 × 2 oe (= 100) **or** 60 ÷ 3 × 2 oe (= 40) **or** 90 ÷ 3 × 2 oe for a process to find 70% of 60 eg $\frac{70}{100} \times 60$ oe (= 42) for a complete set of processes to find the required mark "100" – "42"(=58) or "40"+ "60" – "42" (=58) cao	It is possible to award P0P1 on this question Accept 66% or better used for $\frac{2}{3}$ May be seen in parts

Question	Answer	Mark	Mark scheme	Additional guidance
116 (a)	2×2×3×7	M1	for a complete method to find prime factors, could be shown on a factor tree, with no more than one arithmetic error **or** for 2, 2, 3, 7	Condone the use of 1
		A1	for 2 × 2 × 3 × 7 oe	Accept $2^2 \times 3 \times 7$
(b)	420	M1	for at least 3 multiples of both 60 and 84 (can include 60 and 84) **or** finds the prime factors of both 84 (may be seen in (a)) and 60, may be seen in factor trees	60, 120, 180, 240, 300, 360, 420 84, 168, 252, 336, 420 $60 = 2 \times 2 \times 3 \times 5$ or $2^2 \times 3 \times 5$ If factor tree in (a) is incorrect ft this factor tree in part (b) for M1 only
		A1	420 or $2 \times 2 \times 3 \times 5 \times 7$ oe	

Question	Answer	Mark	Mark scheme	Additional guidance
117	–7, –4, –2, 1, 8	B1	for –7, –4, –2, 1, 8	Accept reverse order 8, 1 –2, –4, –7
118	8000	B1	cao	
119	4.2	B1	for 4.2 **or** $\frac{21}{5}$ oe	
120	7776	B1	cao	
121	14	P1 P1 A1	for making a start to the process eg 14 × 15 (= 210) **or** 14 × 15 × 6.50 (= 1365) **or** 1274 ÷ 6.50 (= 196) **or** 14 × 15 × 6.50 – 1274 (= 91) for a complete process eg (14 × 15 × 6.50 – 1274) ÷ 6.50 **or** 14 × 15 – (1274 ÷ 6.50) cao	
122	16 35	P1 P1 A1	for process to find length of time in car park eg 8.40 ÷ 0.024 (= 350) **or** 0.024 × 60 (= 1.44) **and** 8.40 ÷ "1.44" (= 5.833...) for process to add "350" minutes to 10 45 eg 10 45 + 60 + 60 + 60 + 60 + 60 + 50 **or** 10 45 + "5 hours 50 minutes" **OR** for 4 35 for 16 35 **or** 435 pm	 Do not accept incorrect interpretation of time, eg 5.83 = 5 hours 83 minutes Accept 16 35 pm

Question	Answer	Mark	Mark scheme	Additional guidance
123	0.35	P1	for $\left(\frac{1}{10}+\frac{3}{5}\right)\div 2$ **or** 0.1 **and** 0.6 **or** 10(%) **and** 60(%) **or** 35(%) **or** for converting to equivalent fractions with a common denominator eg $\frac{1}{10}$ **and** $\frac{6}{10}$	
		A1	for $\frac{7}{20}$ oe **or** 0.35	
124	40 litres (supported)	P1	for finding a cost linked to the correct volume for one offer eg 120 litres = 3 × 3.50 (= (£)10.5(0)) **or** 120 litres = (£)9 **OR** for finding cost per litre or litres per £ for one offer eg 3.50 ÷ 40 (= 0.0875) **or** 9 ÷ 120 (= 0.075) **or** 40 ÷ 3.50 (= 11.4…) **or** 120 ÷ 9 (= 13.3…) **OR** for working with bags in the ratio 2 : 1	<table><tr><td>120 *l*</td><td>£10.50</td><td>£9</td></tr><tr><td>80 *l*</td><td>£7</td><td>£6</td></tr><tr><td>40 *l*</td><td>£3.50</td><td>£3</td></tr><tr><td>20 *l*</td><td>£1.75</td><td>£1.50</td></tr></table>
		P1	for finding costs linked to the same volume for both offers eg 120 litres = 3 × 3.50 (= (£)10.5(0)) **and** 120 litres = (£)9 **OR** for finding cost per litre or litres per £ for both offers eg 3.50 ÷ 40 (= 0.0875) **and** 9 ÷ 120 (= 0.075) **or** 40 ÷ 3.50 (= 11.4…) **and** 120 ÷ 9 (= 13.3…) **OR** for a complete process to inform decision	
		C1	'40 litre bags' supported by correct comparable values	Clear indication that the 40 litre bags are better value for money supported by correct values for comparison

Question	Answer	Mark	Mark scheme	Additional guidance
125	127.5 and 128.5	B1 B1	for 127.5 in the correct position for 128.5 in the correct position	 Accept $128.4\dot{9}$ or 128.499...
126	4.56×10^{-2}	M1 A1	for $0.000000342 \div 0.0000075$ **OR** for 0.0456 oe eg 0.456×10^{-1} **or** 45.6×10^{-3} **or** $\frac{57}{1250}$ **OR** for an answer of 4.56×10^{n} cao	

Question	Answer	Mark	Mark scheme	Additional guidance
127	$\frac{3}{4}$	B1	for $\frac{3}{4}$ or any other equivalent fraction	
128	−3, −1, 0, 2, 4	B1	for −3, −1, 0, 2, 4	Accept reverse order
129	At least **two** of 1, 3, 5, 15	B1	for at least two of 1, 3, 5, 15 with no incorrect values	Accept 3 × 5 etc.
130	2 000 000	B1	for 2 000 000 or 2×10^6	
131	Yes and statement	P1 P1 C1	for a first step towards solution, eg. 2 × 2.75 (= 5.5) or 2.75 + 2.9 (= 5.65) **OR** 10 − 1.5 (= 8.5) or 10 – 2.9 (= 7.1) or 10 – 2.75 (= 7.25) for a complete process to find figures to compare eg. 2 × 2.75 + 2.9 + 1.5 (= 9.90) or 10 − (2 × 2.75 + 2.9) (=1.60) **OR** 2 × 2.75 + 2.9 (=8.40) **and** 10 − 1.5 (= 8.5) for correct conclusion with accurate figure(s) eg. Yes and (£)1.6(0) **or** Yes and (£)9.9(0) **or** Yes and (£)8.4(0) **and** (£)8.5(0)	
132	14 < 21 4+7 = 103 – 92 $2^2 = 2 \times 2$ −3 > −5	B2 (B1	for all 4 correct for 2 or 3 correct)	

Question	Answer	Mark	Mark scheme	Additional guidance
133 (a)	7	B1	cao	
(b)	1 hr 38 mins	M1	for a complete method to find the time difference eg. 9 00 – 7 22 **OR** a calculation on a number line, may be seen in any time format **OR** work in parts eg hours and minutes, may work in any units, eg. 60 – 22 (= 38) + 1 hour **OR** a clear build up method from 07 22 to 09 00 **OR** for correct values seen in an incorrect format, eg. 1.38 or 1:38 or 98 without units	
		A1	1 hr 38 (mins) or 98 minutes or $1.6\dot{3}$ hrs	
134	10	P1	for starting the problem, 12 ÷ 6 (=2)	The square of side 2 cm may be just seen on the diagram
		P1	for a complete process to find width "2" × 5	
		A1	cao	
135	8.3 and 8.4	B1	for 8.3 in the correct position	
		B1	for 8.4 in the correct position	Accept $8.3\dot{9}$ or 8.399…
136 (a)	5.62×10^{-3}	B1	cao	
(b)	1452	B1	cao	

Question	Answer	Mark	Mark scheme	Additional guidance
137	40 or tens	B1	cao	Accept trailing zeros, eg 40.0 Accept forty
138	odd square	B1	stating an odd square number eg 1, 9, 25, 49, 81, etc.	
139	4	B1	cao	
140	$\frac{31}{100}$	B1	cao	
141	$\frac{5}{7}, \frac{11}{15}, \frac{3}{4}, \frac{19}{25}$	M1 A1	conversion into decimals or percentages or other equivalent form, at least two conversions correct, **or** any three fractions in correct order cao	0.71(...), 0.73(...), 0.75, 0.76 Accept list in reverse order for this mark Accept expressed in equivalent decimals or percentages or any other appropriate form
142 (a)	7.547×10^{-5}	B1	cao	
(b)	34200	B1	cao	
(c)	3.082×10^{15}	M1 A1	for $\frac{23000\times6700}{0.00000005}$ **OR** for one calculation eg 1.541×10^{8} **or** 154 100 000 **or** 4.6×10^{11} **or** 1.34×10^{11} for 3.082×10^{15} oe	Answer could be given as an ordinary number.

Question		Answer	Mark	Mark scheme	Additional guidance
143		1.6	B1	cao	
144		243	B1	cao	
145		Suitable number eg. 564 000	B1	for a suitable 6 digit number with 4 as thousands digit	Can be a decimal eg 4652.99, 4625.90
146		3 and 9	P1 A2 (A1	for starting to list factors of 36 **or** multiples of 3 **or** odd numbers cao for one correct answer)	Must be at least 3. In either order
147		(MYL) (MLY) (YML) (YLM) (LMY) (LYM)	M1 A1	for at least 3 correct different combinations fully correct list with no extras or repeats	for M1 ignore extras or repeats; accept words or unambiguous abbreviations

Question		Answer	Mark	Mark scheme	Additional guidance
148		19.85	P1	for a start to the process eg 30 ÷ 6 (=5) **or** 30 ÷ 15 (=2) **or** 30 ÷ 10 (=3) **OR** 30 × 37 (=1110) **OR** 82 ÷ 6 (=13.6 to 13.7) **or** 45 ÷ 15 (=3) **or** 1.25 ÷ 10 (=0.125)	
			P1	for process to find cost of 30 pens **or** 30 pencils **or** 30 rulers eg "5" × 82 (= 410) **or "**2" × 45 (= 90) **or** "3" × 1.25 (= 3.75) **OR "**13.6.." × 30 (=409.8 to 410) **or** "3" × 30 (=90) **or** "0.125" × 30 (=3.75)	Work may be in pence or in pounds
			P1	for a process to find cost of 2 of 30 pens **or** 30 pencils **or** 30 rulers eg any 2 of "5" × 82 (= 410) **,** **"**2" × 45 (= 90) **,** "3" × 1.25 (= 3.75)	Intention to add not necessary eg 410, 3.75 is sufficient, or working leading to these figures Any two correct methods will imply P1P1P1
			P1	for adding at least 3 different costs (units may not be consistent) eg "410" + "90" + "3.75" **or** "410" + "90" + "11.10"	Correct working for 3 of pens, pencils, rulers and pencil cases with an intention to add, may be in a mixture of money units
			A1	cao	
149	(a)	23, 29	B2	for 23 **and** 29 **and** no extras	
			(B1	for one correct **and** no more than one incorrect)	2 correct and 1 incorrect award B1
	(b)	Explanation	C1	for decision **and** explanation eg yes and because all other even numbers have 2 as a factor	Decision is required may be yes or implied by she is ... oe. Do not accept statements that are ambiguous, or contradictory
150	(a)	280	M1	for listing at least 3 multiples of both 40 and 56 **OR** finds the prime factors of both 40 and 56	40, 80, 120, … 56, 112, 168, … **OR** 2,2,2,5 and 2,2,2,7
			A1	cao	
	(b)	60	B1	60 **or** $2^2 \times 3 \times 5$ oe	2^2, 3, 5 not enough ie must be a product

Question	Working	Answer	Mark	Notes
151		0.07	B1	cao
152		42 or 48	B1	42 or 48
153 (a)		6	P1	for process to find the total weight of one type of fruit eg 4 × 125 (=500) or 2 × 170 (=340) or 3 × 135 (=405) or 1245
	1785−1245 =540		P1	complete process to find the total weight of oranges eg "1785" – ("500" + "340" + "405") or sight of digits 54 or answer given as 0.6 or 60
	540 ÷ 90		A1	cao SC B1 for answer of 15
(b)(i)		No	P1	Starts process, eg 1000 ÷ 75 (digits 13(.3..) seen) or 15 × 75 (= 1125) or 1.125 or showing 1000 ÷ 15 (=66(.6..)) or counts to 975 or 1050
		(supported)	C1	"No" with correct working eg as evidenced by work from P1 mark.
(b)(ii)		Comment	C1	for valid comment, eg may get enough tomatoes if tomatoes weigh less than assumed (75g), not if weight is more than 75g.
154		No	B1	for showing 11 or 13 or 17 or 19 with no non-prime numbers between 10 and 20, or for showing 23 or 29 with no non-prime numbers between 20 and 30. Ignore any numbers shown below 11.
		(supported)	C1	"No" supported by listing 11, 13, 17, 19 and 23, 29 and no non-prime

Question	Working	Answer	Mark	Notes
155		988	P1	for a process to find the amount of oil bought in November, eg 750 ÷ 0.5 (=1500) or 75000 ÷ 50 (=1500)
			P1	for a process to find the amount of oil ordered in February, eg "1500" +1000 − 600 (= 1900)
			P1	(indep) for a process to calculate a 4% increase of their amount of oil, eg or "1900" × 1.04 (=1976) or increase in price eg 1.04 × 50 (=52 or 0.52) or 1.04 × 750 (=780)
			P1	for a complete process to find the total cost of the calculated amount of oil eg "52" × "1900" or "780" × "1900" ÷ "1500"
			A1	Cao
156 (a)		2.7560…	M1	for 1.0654(059…), 0.1402(633…), 7.5957(541…), 2.756 truncated or rounded to no less than 2dp
			A1	for 2.7560(….)
(b)		2.76	B1	for 2.76 ft from (a)

Question	Working	Answer	Mark	Notes
157		60	B1	cao
158		$\frac{11}{30}, \frac{2}{5}, \frac{7}{15}, \frac{1}{2}$	M1 A1	converts fractions to a common form, e.g. fractions with a denominator of 30, decimals or percentages, at least two conversions correct or any 3 fractions in correct order correct order
159		268.20	P1 P1 P1 A1	for a process to work out the value of the £1 coins, eg. 495 ÷ 3 (= 165) or 495 × 0.33...or of the 50p coins, eg. 124 ÷ 2 (= 62) for process to find the number of 20p coins, eg. (495 – 124 – (“165”) (= 206) for complete process to find total value using consistent units., eg. (“165”) + (124 ÷ 2) + (“206” × 0.2) or 165 + 62 + 41.2 cao (accept 268.2)
160 (a)		25	B1	for 25 (accept 5^2)
(b)		24	B1	cao
(c)		23, 29	B1	for 23 and 29 and no extras

Question	Working	Answer	Mark	Notes
161		Letters2send (supported)	P1	for the start of a process to find comparable costs at either shop, e.g. 150 ÷ 25 (= 6) or 150 ÷ 30 (= 5), 150 ÷ 10 (= 15), 2.10 ÷ 15 = (=0.14)
			P1	for process to find cost from Letters2send, e.g. (150 ÷ 25) × 3.49 (= 20.94)
			P1	for process to find cost at Stationery World, e.g. (150 ÷ 30) × 2 × 2.10 (= 21)
			C1	for correct conclusion with correct values from each shop (20.94 and 21)
				OR
			P1	for the start of a process to find comparable costs, eg 3.49 ÷ 25 (= 0.1396), 2.10 ÷ 10 (= 0.21), 25 ÷ 3.49 = (7.1...), 2.10 ÷ 15 = (= 0.14)
			P1	for process to take into account the offer at Stationery World, eg buy 30 envelopes pay for 20,
			P1	for complete process to find values that can be used for comparison, eg 30 × 0.13(96) and 2 × 2.10 (= 4.2(0))
			C1	for correct conclusion with correct values from each shop (4.1(88) and 4.2(0))
162 (a)		0.47	B1	
(b)		2.28×10^9	M1	for correct value but not in standard form, eg $22.8 \times 10^{3+5}$, 228×10^7, 2 280 000 000 or for 2.28×10^n , $n \neq 9$
			A1	cao
163		$4.755 \leq n < 4.765$	B2	for $4.755 \leq n < 4.765$
			[B1	for 4.755 or 4.765 or 4.764$\dot{9}$]

Question	Working	Answer	Notes
164		0.4375	B1 cao
165		27 or 64	B1 cao
166		7.3225	M1 for 5.5225 **or** 1.8 A1 cao
167		eg. 1, 2, 18	P1 Starts process eg. Lists at least 2 multiples from 9,18,27,36,45 **or** lists at least 2 factors from 1, 2, 4, 5, 8, 10, 20, 40 P1 Continues process eg. gives a set of numbers whose sum is greater than 20 but less than 30 but numbers may not all be appropriate factors/multiples A1 Gives 3 numbers that meet all the criteria
168 (a) (b)		eg. $2 \times 5 = 10$ explanation	B1 example given P1 two prime numbers identified C1 conclusion which also shows at least one calculation with prime numbers or identifies one of the prime numbers as 2.
169		12	M1 Starts to list factors of writes at least one number in terms of prime factors **or** identifies a common factor other than 1 A1 cao

Question	Working	Answer	Notes
170		3 tenths or $\frac{3}{10}$	B1
171		9	B1
172		$\frac{21}{100}$	B1
173 (a)	27 × 18 = 486	5.14	M1 for 1000 – "27 × 18" A1 cao
(b)		"less change"	C1 for "less change" oe
174	458 – 72 = 386 386 ÷ 2 = 193	265	P1 for start to the process, eg 458 – 72 (= 386) or 458 ÷ 2 (= 229) and 72 ÷ 2 (= 36) A1
175		63	M1 for a method to find percentage of a quantity A1
176		$\frac{5}{12}$, $\frac{1}{2}$, $\frac{17}{24}$, $\frac{3}{4}$	M1 for a method to convert each to a form that can be easily used for comparing, eg $\frac{5}{12}$ = $\frac{10}{24}$ or for any 3 in correct order or all 4 in reverse order A1 for correct order
177 (a)		168	B1
(b)		14.85	M1 for 12.25 or 2.6 A1

Question	Working	Answer	Notes
178 (a)			C1 for a correct evaluation of the method shown by giving at least one correct error made, eg "didn't multiply the 1 by 5"
(b)			C1 for a correct evaluation of the method shown by giving at least one correct error made, eg "can't split a mixed number" or "should convert to improper (oe) fractions first"

Question	Working	Answer	Notes
179		7000	B1 cao
180		–5°C, –2°C, 3°C, 7°C, 10°C	B1 correct order
181		$\frac{3}{40}$	M1 $\frac{75}{1000}$ oe A1
182		625	B1 cao
183	720 000 ÷ 3	240 000	P1 for division by 3 A1 cao
184 (a)		1 hr 4 mins	B1 cao
(b)		No + explanation	B1 for no + explanation, eg the 0717 from Swindon takes less than one hour
185	2 × £1.10 (= £2.20) 3 × £0.95 (= £2.85) 5 × £2.15 (= £10.75) £2.20 + £2.85 + £10.75 £15.80 ÷ 5	3.16	P1 for process of working out total cost of coffees or teas or sandwiches in pence or pounds P1 for process of finding total cost using consistent units P1 for process of dividing by 5 A1 cao

Question	Working	Answer	Notes
186		0.8	P1 for process to find amount of soup put in bowls, eg 24×0.3 or amount of soup when 8 pints are shared between 24 bowls, eg $24 \div 8$ P1 for complete process to find amount of soup left over A1
187		8	M1 for finding the HCF of any two of the three numbers **or** for 2^5 and 3×2^4 and $2^3 \times 3^2$ A1 cao

Question	Answer	Mark	Mark scheme	Additional guidance
188	2 factors	B1	at least 2 of 1,5,7,35	No incorrect factors
189	10 45	B1	for 10 45	Accept any time notation
190	11	B1	cao	
191	EJ, EK, FJ, FK, GJ, GK	B2 (B1	fully correct list with no repeat for at least 4 correct)	Allow letters in either order
192	2540 shown	M1 M1 A1	for finding the cost of one item eg 2 × 600 (=1200) or 7 × 120 (=840) or 2 × 250 (=500) full process eg "1200" + "840" + "500" (=2540) **or** 2500 − "1200" − "840" − "500" (= ±40) for 2540 or ±40	 Ignore written statements as long as the correct figures are shown
193	61	P1 A1 A1	for 300 ÷ 4.85 (= 61.8...) for 61.8... **or** 62 61	This mark may be awarded for build-up methods that get to figures that are before or after 300 Embedded answers get −1 mark.
194	80	P1 P1 A1	for $1-\frac{13}{15}\left(=\frac{2}{15}\right)$ **or** $\frac{13}{15}\times 600$ (million) (= 520 (million)) for $"\frac{2}{15}"\times 600$ (million) (= 80 (million)) **or** 600 − "520" (=80) oe Accept 80 000 000	Condone no million or may see 000 000 used* *In this case condone up to two missing 0s for the award of the P marks. For P marks accept $\frac{13}{15}$, $\frac{2}{15}$ rounded or truncated to no less than 2dp.

Question	Answer	Mark	Mark scheme	Additional guidance
195 (a)	450 000	B1	cao	
(b)	7×10^{-3}	B1	cao	
(c)	4.73×10^{3}	M1	for 4730 oe **or** for 4.73×10^{n} where $n \neq 3$	
		A1	cao	

Question	Answer	Mark	Mark scheme	Additional guidance
196	8	B1	cao	
197	6.25	B1	for 6.25 oe	
198	–6,–4,–3, 0,1, 2,7	B1	for –6, –4, –3, 0, 1, 2, 7	accept reverse order
199	78	P1 P1 A1	for process to find the number of boxes, eg 200 ÷ 25 (=8) or to find the cost of each tile, eg 9.75 ÷ 25 (=0.39) for complete process, eg "8" × 9.75, "0.39" × 200 cao	Could work in £ or in pence for P marks
200 (a)	30	B1	cao	
(b)	42	B1	cao	
(c)	$\frac{1}{20}$	B1	for — or any equivalent fraction or 0.05	

Question	Answer	Mark	Mark scheme	Additional guidance
201 (a)	shop A from correct figures	P1	for start of process to find the number of packs needed from at least one shop, eg 30 ÷ 4 (= 7.5 or 8) **or** 30 ÷ 6 (= 5)	
		P1	for process to find cost of batteries from at least one shop, eg (30 ÷ 4) × 1.6 (= 12.8 or 12) **or** (30 ÷ 6) × 2.7 (= 13.5)	
		P1	for a complete process to find the cost of batteries from both shops using whole packs eg "8" × 1.6 (= 12.8) **and** "5" × 2.7 (= 13.5)	"8" must come from "7.5" rounded up
		C1	for shop A with both 12.8(0) and 13.5(0)	
(b)	No effect (supported)	C1	(ft) for "has no effect" with reason **Acceptable examples** No, since A is 12 and B is 13.5(0) No, since A is just 80(p) less and B is the same. No, since A is less and B has not changed. No, since A is 1.5(0) less No, since 40(p) is less than 45(p) No, as batteries in B are 5p more **Not acceptable examples** Yes …. There is no change (unsupported) No, since A is less (incomplete)	If figures are given as part of the answer they must be correct

Question	Answer	Mark	Mark scheme	Additional guidance
202	4	P1	for start to process, eg 65 + 100 + 3 × 5 + 1 × 20 (= 200) **or** 3 × 80 (= 240)	May be part of an algebraic statement eg 65 + 100 +35 + 10*x*
		P1	for 65 + 100 + 3 × 5 + 1 × 20 (= 200) **and** 3 × 80 (= 240) **or** "240" – 100 – 65 (=75)	
		P1	for process to find value of £10 notes in Carl's wallet, eg "240" – "200" (= 40) **or** for "75" – 3 × 5 – 1 × 20 (=40)	
		A1	cao	NB 80 – 35 (=45) leading to 4 gets 0 marks
203	9.35, 9.45	B1	for 9.35 in the correct position	
		B1	for 9.45 in the correct position	Accept 9.44$\dot{9}$ oe or 9.4499… oe

Question	Answer	Mark	Mark scheme	Additional guidance
204	Two correct factors	B1	for 2 correct factors from 1, 2, 3, 4, 6, 12 and no incorrect factors	Accept one correct product
205	10	B1	cao	
206	$\frac{7}{10}$	B1	for $\frac{7}{10}$ or for any other equivalent fraction	Eg $\frac{70}{100}$
207	18	B1	cao	
208	2.5(0)	P1 P1 A1	for 13 × 7.5(0) (=97.5(0)) **or** 5 × 20 (=100) for "100" – "97.5(0)" cao	
209 (a)	157.668(255)	M1 A1	for 836.4 **or** 5.304(809139) **or** 28.141 **or** a truncated or rounded version of 157.668255 to no less than 3 sf for 157.668(255)	Answer must be given to at least 3 decimal places rounded or truncated Accept a clear indication of the decimal point. Check first 3 decimal places only
(b)	157.7	B1	ft from part (a) provided answer to (a) has at least 5 sf	

Question	Answer	Mark	Mark scheme	Additional guidance
210 (a)	3.246×10^7	B1	cao	
(b)	0.00496	B1	cao	
(c)	No with explanation	C1	No and explanation that B is bigger as the power of 10 is bigger. **Acceptable examples** She is incorrect as 10^8 is smaller than 10^9 No, because B has more digits than A No, A is millions but B is billions No, if you subtract A from B the answer is positive (but if you subtract B from A the answer is negative) A= 621200000, B=4730000000, B is bigger No because she did not take into account standard form No as when you find the ordinary number B is greater than A **Not acceptable examples** Yes… A = 5 zeros after the number where as B = 7 zeros after the number No as 4.73×10^9 is one more than 6.212×10^8 6.212 is to the power of 8 and 4.73 is to the power of 9 so there is an extra digit Asma is wrong because she has more numbers behind the decimal point which means that it will be bigger than A No B has more zeros	Decision eg "No" may be seen by the question. "She is incorrect" is equivalent to "no"

Question	Answer	Mark	Mark scheme	Additional guidance
211	500	B1	cao	
212	48 or 56	B1	for 48 or 56	Accept either or both. Do not award the mark if other numbers are shown with either.
213	9, 27	B1	cao	Do not award the mark if other numbers are shown.
214	6	M1 A1	for interpreting the table to find the number of green counters (26 + 7 (= 33)) or the number of red counters (16 + 11 (= 27)) or the difference in circles (26 – 16 (=10)) or squares (11 – 7 (=4)) cao	33 – 27 = 6 10 – 4 = 6
215	39	M1 M1 A1	for finding one quarter of 52, eg 52 ÷ 4 (= 13) **OR** for finding the fraction to be filled, eg $1-\frac{1}{4}$ $\left(=\frac{3}{4}\right)$ oe for a complete method eg 52 − "13" or "13" × 3 **OR** for $"\frac{3}{4}" \times 52$ cao	Accept equivalent decimals or percentages

Question	Answer	Mark	Mark scheme	Additional guidance
216 (a)	241.56	P1	for difference for 1 parcel eg 35.38 – 15.25 (= 20.13) **OR** for total cost for 12 parcels by either service eg 35.38 × 12 (= 424.56) **or** 15.25 × 12 (= 183)	
		P1	for a complete process eg "20.13" × 12 **or** "424.56" – "183"	
		A1	cao	
(b)	Explanation	C1	for explanation **Acceptable examples** both figures rounded down (refers to both figures) 20 is less than 21 and 15 is less than 15.25 **Not acceptable examples** both figures rounded (up); rounded down either 20 is less than 21 or 15 is less than 15.25 (refers to just one figure) the cost is 320.25 (more than 300); multiplying with bigger numbers	
217	2.4774(011…)	M1	for 8.77 or 3.54 or 2.477 or 2.47 or 2.48 or $\frac{877}{354}$	
		A1	for 2.4774(011…)	If the answer has been rounded to less than 4 dp but the figure is shown in working to 4 dp or more, award full marks. Ignore any incorrect digits after the 4th decimal place.

Question	Answer	Mark	Mark scheme	Additional guidance
218	612	P1	Alan: for 100 − 32 – 40 (= 28) or for finding "28"% of 400 eg 400 × 0.28 (=112)	
		P1	Beryl: for $1-\frac{3}{10}-\frac{1}{10}\left(=\frac{6}{10}=60\%\right)$ or for finding $"\frac{6}{10}" \times 500$ (=300)	
		P1	Charlie: for starting to use the ratio 3 : 4 eg 150 ÷ 3 (=50)	
		P1	for complete ratio process eg $"\frac{150}{3}" \times 4$ (=200)	
		A1	cao	Answers only (without working) award 0 marks.

Question	Answer	Mark	Mark scheme	Additional guidance
219 (i)	43.7	B1	cao	
(ii)	$\frac{5}{7}$	B1	$\frac{5}{7}$ oe	Accept any other equivalent fraction to $\frac{5}{7}$
220	1.2	B1	oe	Accept $\frac{12}{10}$ or $\frac{6}{5}$
221	90	B1	cao	
222	50	P1 P1 P1 A1	for 45 × 1.2 (= 54) **or** 34 × 1.5 (=51) for 150 – "54" – "51" (= 45) for "45"÷ 0.9 (=50) cao	
223	6	P1 P1 A1	for listing the multiples of 3 **and** 5 to at least the number 15 **or** 3 × 5 (= 15) for considering multiples of 15, eg 4 multiples of 15 identified **or** 100 ÷ 15 (=6.6..) **or** an answer of 7 cao	3, 6, 9, 12, 15 and 5, 10, 15 If in a list of multiples of 3 and 5, multiples of 15 must be clearly identified Sight of 6.6(…) or $6\frac{2}{3}$ oe or an answer of 7 gets 2 marks.
224	1204	P2 (P1 P1 A1	for a full process to find 120% of 14200 eg, 1.2 × 14200 (=17040) **or** (0.2 × 14200) + 14200 (=17040) for process to find 20% of 14200 eg, 0.2 × 14200 (=2840) oe) for [cost] − 5000 cao SCB1 for answer of 920 if P0 scored	 [cost] must be greater than 14200

Question	Answer	Mark	Mark scheme	Additional guidance
225 (a)	7360	B1	cao	
(b)	0.1077981356	B2	for 0.1077(981…)	Answer must be given to at least 4 decimal places rounded or truncated
		(B1	for 5.74(45626…) **or** 53.29 **or** 0.11 **or** 0.107 **or** 0.108)	Accept a clear indication of the decimal point. Check first four decimal places only

Question	Answer	Mark	Mark scheme	Additional guidance
226	0.9	B1	cao	Accept with trailing 0s eg 0.90
227	2500	B1	cao	
228 (a)	974	B1	cao	
(b)	16,28 or 18,26	B1	for fully correct pair of numbers	
229	1, 2, 3, 5, 6, 10, 15, 30	B2	cao	Numbers may be shown in any order eg paired; Accept numbers repeated
		(B1	for at least 3 correct factors with no more than one incorrect answer)	
230 (a)	2.28	B1	cao	
(b)	2.5604	B2	cao	If the correct answer is shown and then rounded, award full marks.
		(B1	for 6.6564 seen, or for 2.56 or for digits 25604)	

Question	Answer	Mark	Mark scheme	Additional guidance
231 (a)	40	B1	cao	
(b)	Yes (supported)	P1	for process shown to add a time to departure time eg 8.45 + 0.17 or 8.45 + 0.15 or 8.45 + 0.15 + 0.17 **OR** for process to work out time at work after arrival at Manchester bus stop eg "9.35" + 15 **OR** finds accumulated additional time eg 17 + 15 (= 32) **OR** start to work backwards eg 10.00 − 0.15	There must be some attempt to add but not necessarily complete or correct (eg 8.62). "9.35" must be a given time ie from 0905, 0935, 0955, 1010, 1025, or 1048. Process must be shown.
		P1	for process to use a bus time from Whitefield to Manchester with other times eg 0904 to 0935 with use of 17 or 15	Do not award in cases of ambiguity.
		C1	for conclusion of "Yes" supported by correct figures eg states 9.50 **or** comparable figures eg 9.35 and 25 (spare)	There needs to be a conclusion eg Yes or equivalent words supported by correct figures; if C mark fully evidenced award 3 marks.
			Alternative scheme	
		P1	for process shown to find a duration of time using given figures eg 8.45 to 10.00, 8.34 to 9.05, 10.14 to 10.48	There must be some attempt to find a duration of time but not necessarily complete or correct. Process must be shown.
		P1	for process to find the total travelling time eg 17 + 31 + 15 or 17 + 2 + 31 + 15	31 can come from any bus apart from the last bus which is 34
		C1	for conclusion of "Yes" supported by correct figures eg comparable figures eg 65 < 75 **or** 75 – 65 (= 10)	There needs to be a conclusion eg Yes or equivalent words supported by correct figures; if C mark fully evidenced award 3 marks.
232	Incorrect order of operation	C1	for identifying an incorrect order of operation, eg should be 12 – 8 **or** "should multiply first"	Showing that 12 – 2 × 4 is 4 (and not 40) is insufficient for this mark; the explanation should focus on what Jenny has done wrong.

Question	Answer	Mark	Mark scheme	Additional guidance
233	10	M1	for a start of method to find Bispah's share, eg 2.50×8 (= 20) **or** $\frac{1}{2} \div \frac{1}{8}$ (= 4)	
		A1	cao	Accept 10.00
234	2.3×10^6	M1	for 2.3×10^n where $n \neq 6$ **or** 23×10^5 or 2300000 **or** 2645000000 and 1150 seen	2300000 could be written as 2.3 million
		A1	cao	

Question	Working	Answer	Mark	Notes
235		4000	B1	for 4000
236		1, 2, 3, 6, 9, 18	B2 [B1	for all 6 factors with no incorrect for at least 3 factors with no more than one error]
237	5.80 × 3 + 7.80 = 25.20	90p or £0.90	M1 M1 A1	for a correct first step from which a complete method could be developed, eg. 5.8(0) × 3 (= 17.4(0)) or 24.3(0) – 7.8(0) (= 16.5(0)) for complete method, eg. 7.8(0) + 5.8(0) × 3 − 24.3(0) (= 0.9(0)) for answer in correct notation with correct units, eg. 90p or £0.90 (accept £0.90p and £0.9) [SC: B1 for an answer of £2.90]
238		13	M1 M1 A1	for the start of a method, eg. 2 × 1000 (= 2000) or 150 ÷ 1000 (= 0.15) or 1000 ÷ 150 (= 6.66…) for a fully correct method, eg. 2000 ÷ 150 or 2 ÷ 0.150 or 13.3(...) cao
239		2, 7 or 3, 13 or 5, 11 or 2, 23	M1 A1	for identifying two different prime numbers or two numbers which add up to give a square number or for a list of at least 3 prime numbers with no errors **and** a list of 3 square numbers with no errors. for two correct prime numbers
240		60	M1 A1	for method to find the number, eg. $48 \times \frac{3}{2}$ (=72) or to find $\frac{1}{6}$ th of the number, eg. 48 ÷ 4 (=12) cao

Question	Working	Answer	Mark	Notes
241		Offer 1	P1	for a process to find the cost of a number of lessons in Offer 1, eg. $24 \times (12 - 1)$ (= 264) or for a process to find 5% (or 95%) of an appropriate amount, eg. 24×0.05 (= 1.20) or 24×0.95 (= 22.80) in Offer 2
		(supported)	P1	for a complete process leading to values to be used for comparison, eg. $24 \times (12 - 1)$ (= 264) and $24 \times 0.95 \times 12$ (= 273.60)
			C1	Offer 1 and correct values, eg. (£)264 and (£)273.6(0) used for comparison
242 (a)		0.625	B1	cao
(b)		$9.75 \leq x < 9.85$	B2	$9.75 \leq x < 9.85$
			[B1	for 9.75 **or** 9.85 (or $9.84\dot{9}$)]
243		0.000 745 2	M1	for digits 7452 seen
			A1	cao

Question	Working	Answer	Mark	Notes
244 (a)		Don, Mersey, Trent, Thames, Severn	B1	accept 112, 113, 297, 346, 354
(b)		Shown	C1	shown with correct values eg (112 × 3 =) 336 (and 346) or 112 + 112 + 112 + 10 = 346 or 346 ÷ 3 = 115(.3..) (and 112) or 346 ÷ 112 = 3.089.. oe
245 (i)		15	B1	cao
(ii)		196	B1	cao
246		40	M1 A1	for 32 ÷ 4 (= 8) or 32 × 5 (= 160) or complete method eg 32 ÷ 4 × 5 oe (= 40) cao
247		42	M1 A1	ft 56 ÷ 4 (= 14) or complete method to find number of grey tiles eg 56 – (56 ÷ 4), 56 ÷ 4 × 3 oe (= 42) for 42 or ft
248		SP, SR, SB, FP, FR, FB MP, MR, MB	B2 (B1)	all 9 combinations given with no extras or repeats at least 6 correct combinations given, condone repeats and incorrect combinations
249		84	M1 A1	for (372 – 36) ÷ 4 cao

Question	Working	Answer	Mark	Notes
250		68	P1 P1 P1 P1 A1 P1 P1 P1 P1 A1	for a process to find the number of vanilla cakes, eg 420 × 2 ÷ 7 oe (= 120) for a process to find the number of banana cakes, eg 420 × 0.35 oe (= 147) (dep P1) for a full process to find the number of lemon/chocolate cakes eg 420 – (vanilla cakes) – (banana cakes) (= 153) (dep on previous P1) for a process to find the number of lemon cakes eg "153" ÷ 9 × 4 oe (= 68) cao OR for writing two proportions in the same format for combining the proportions of vanilla and banana cakes eg 2/7 + 7/20 (= 89/140) (dep P1) for a full process to find the proportion or number of lemon/chocolate cakes eg 1 – "89/140" (= 51/140) (dep on previous P1) for a process to find the number of lemon cakes eg "51/140" × 420 ÷ 9 × 4 (= 68) cao
251 (a) (b)		155 000 165 000 or 164 999 or 164 999.99	B1 B1	cao 165 000 or 164 999 or 164 999.99

Question	Working	Answer	Notes
252		2100	B1
253	(500 – 230 – 92 – 40) ÷ 2	69p	P1 for start to process eg. 230 + 92 or 500 – 40 P1 for complete process A1 for 69p or £0.69
254		180	M1 For start to method e.g. 36 ÷ 4(= 9) or 2 × 36 M1 For complete method to find no of cm in 1 yard **or** in 2 yards A1
255		351	M1 for 2.34 × 150 oe A1
256	0.43, 0.428..., 0.438. 0.4375	$\frac{3}{7}$, 0.43, $\frac{7}{16}$, 43.8%,	M1 Converts numbers to common format e.g decimals to at least 3 d.p. A1
257 (i) (ii)		17 16	B1 B1

Question	Working	Answer	Notes
258		6000	B1 cao
259		5.25	B1 cao
260		8	B1 cao
261 (i) (ii)		12 2 or 5	B1 cao B1
262		Statement	C1 for a full explanation
263		–16, 32	P1 for 48 ÷ 6 P1 for a complete process to find either A or B A1
264 (a) (b)		7 256	B1 cao B1 cao
265		Yes with evidence	C1 for writing down at least two squares numbers P1 for adding square numbers A1 cao with supporting evidence
266		$12.5 \leq L < 13.5$	B1 12.5 B1 13.5

Question	Working	Answer	Notes
267		$\frac{19}{100}$	B1 cao
268		even mult of 7	B1 for an even multiple of 7
269		60	B1 cao
270		1,3,9 or 2,6,9 or 2,3,6 or 2,3,18 or 2,9,18	M1 3 factors of 18 or 3 numbers with prime total A1 eg 2, 3, 6
271 (a)		4.6	B1 cao
(b)		4.8025	B1 for 2.7 or 2.1025 (implied by answer of 4.8025) B1 cao
272		$7.15 \leq x < 7.25$	B1 for 7.15 and 7.25 B1 cao

Question	Working	Answer	Mark	Notes
273 (a)		5	1	B1 cao
(b)		$\frac{7}{10}$	1	B1 accept any equivalent vulgar fraction
(c)		0.03	1	B1 cao
(d)		16	2	M1for a method to work out 20% of 80 e.g. 80 ÷ 10 × 2 or 2 × 8 oe A1 cao
*274		60p	4	M1 for price of child ticket e.g. 8.40 ÷ 2 (= 4.20) M1 for a method to work out the total cost of the 2 adults e.g 2 × 8.40 (= 16.80) **or** of the 3 children e.g "4.20" × 3 (= 12.60) **or** of the whole family e.g. 2 × 8.40 + 3 × "4.20" (= 29.40) M1 for a complete method to work out the change e.g. 3 × £10 – "29.40" = (0.60) **or** 3 × £10 – (2 × 8.40 + 3 × "4.20") (= 0.60) C1 for change with correct money notation 60p or £0.60 (accept £0.60p) **NB** candidates may work in pence rather than pounds
275		15000 m or 15 km	3	M1 for 4 × 1500 (= 6000) **or** 3 × 3 (= 9) M1 correct method to change to consistent units e.g 3 × 1000 (= 3000) **or** 1500 ÷ 1000 (= 1.5) A1 for 15 000 m or 15 km
*276		4 35 pm	4	M1 for 4 × 25 (= 100 (min)) M1 for "100" + 15 (= 115) (min) M1 for 6 30 – "1hr 55 min" C1 for correct time with pm e.g.4 35 pm or16 35(oe) **or** M1 takes off 15 min e.g. 6 30 − 15 (= 6 15) M1 takes off 25 min 4 times e.g "6 15" 5 50 5 25 5 00 4 35 **or** 6 30 6 05 5 40 5 15 4 50 M1 takes off 15 min **and** takes off 25 min 4 times C1 for correct time with pm e.g 4 35 pm or 16 35(oe)

Question	Working	Answer	Mark	Notes
277 (a)		millilitres	1	B1 for millilitres or m*l* or cm^3
(b)		kilometres	1	B1 for kilometres or km
(c)		tonnes	1	B1 for tonnes or tonne
278 (a)	ruler, pen ruler, pencil, eraser ruler, 3 erasers **or**	3	2	M1 for at least one correct way listed in words or as costs **or** for answer of 3 A1 for 3 **and** the three correct ways listed in words or as costs
(b)	7 × 30 + 3 × 45 = 3.45 5.00 – 3.45 =	1.55	3	M1 for 7 × 30 (= 210) or 3 × 45 (= 135) M1 (dep on previous M1) for £5 – their **total** of 7 × 30 and 3 × 45 **or** digits 155 seen A1 for 1.55 cao **B1 SC** for 4.25
(c)		20*y*	1	B1 for 20*y* oe
279 (a)		8	1	B1 for 8 or – 8
(b)		14 30	1	B1 for 14 30 or 2 30 pm
(c)		18 00	2	M1 for intent to add 9 h to 1400 **and** subtract 5 h in any acceptable order A1 for 18 00 or 6 pm
280 (a)		300	2	M1 for using 1000 g = 1 kg or 1.7 or 0.3 seen (maybe on scale) A1 cao
(b)		21	3	M1 for sight of 18 or 3 (maybe on scale) M1 for complete process of ("18" – 15) × 7 A1 cao

Question	Working	Answer	Mark	Notes
281	0.25, $\frac{3}{10}$, 0.32, 35%, $\frac{2}{5}$	Correct order	2	M1 for conversion to decimals with one error **or** conversion to percentages with one error **or** conversion to fractions with a common denominator with one error **or** correct order with one error **or** correct in reverse order A1 for correct order in any format
282		17.6(0)	4	M1 18 × 6.45 (= 116.1(0) or 18 × 645 = (11610) M1 for 18 × 6.45 – 98.50 in the correct order but units may not be consistent A1 for digits 1760 A1 ft (dep on M2) for correct placement of decimal point after subtraction (of appropriate values)

Question		Working	Answer	Mark	Notes
283	(a)		0.5	1	B1 cao
	(b)		$\frac{3}{10}$	1	B1 for $\frac{3}{10}$ or equivalent fraction
	(c)		80	1	B1 cao
	(d)		57.6	1	B1 cao
	(e)		$\frac{1}{3}$	2	M1 for writing over a single denominator eg $\frac{7-3}{12}$ or for $\frac{4}{12}$ A1 cao
*284	(a)		Statement (supported)	3	M1 for method to find total visitors for 2009 or for 2010 eg 185+108+133+231+124 (=781) or 177+120+128+230+118 (=773) A1 for 781 **and** 773 (or 781000 **and** 773000) C1 ft (dep on M1 and two totals) for clearly stating 2009 as their answer or ft from their two totals. OR M1 for method to find difference in the number of visitors for each castle eg 8, −12, 5, 1, 6 or −8, 12, −5, −1, −6 A1 for correct total net difference 8 or −8 C1 (dep M1 and a net difference) for clearly stating 2009 as their answer or ft from their net difference.
	(b)(i) (ii)		09 36 54	2	B1 B1 cao
	(c)		09 21	1	B1

Question		Working	Answer	Mark	Notes
285	(a)		30	3	M1 for 21 × 6 (= 126) or 32 × 6 ÷ 2 (=96) M1 for 21 × 6 – (32 × 6 ÷ 2) A1 cao OR M1 for 21 × 2 – 32 (= 10) M1 (21 × 2 – 32) × 6 ÷ 2 A1 cao
	(b)	(C, F) (C, E) (C, T) (L, F) (L, E) (L, T)	list of 6 pairs	2	B2 for six correct and distinct pairs with no repeats (B1 for at least 3 correct pairs and no incorrect pairs)
286	(a)		6	1	B1 cao
	(b)		44	1	B1 cao
	(c)		33, 11, 4 or 4, 11, 33 or 8, 4, 6 or 6, 4, 8	1	B1 cao
287	(a)		24	3	M1 for 4 × 10 (= 40) M1 for operations –"40" then ÷ 7 in correct order or 20 A1 cao
	(b)		35*e*	2	M1 for 7 × *e* or 5 × *e* or 7 × 5 × *e* oe A1 for 35*e* (ignore £ signs)
288			40 m*l* or 0.04 *l*	3	M1 for 12 × 330 (= 3960) M1 for 4 × 1000 – (12 × 330) (= 40) A1 for 40 m*l* OR M1 for $12 \times \frac{330}{1000}$ (= 3.96) or digits 396 M1 for $4 - (12 \times \frac{330}{1000})$ (= 0.04) A1 0.04 *l*

Question		Working	Answer	Mark	Notes
289	(a)		26	3	M1 for 25−13+20 (=32) or 20−13 (=7) M1 for 58−"32" or 58−25−"7" A1 cao
	(b)		6	3	M1 for adding week 1 or week 2, eg 12+ … +13 (=64) or 16+ … +9 (=70) M1 for "70" – "64" (=6) A1 cao **OR** M1 for finding differences for each day, eg 16−12 (=±4), 20−12 (=±8), etc oe M1 for adding differences using consistent signs, eg 4+8−4+2−4 (=6) oe or −4−8+4−2+4 (=−6) oe A1 cao
290	(a)		7400	1	B1 cao
	(b)		6402 in words	1	B1 for eg six thousand four hundred and two
	(c)		54 000	1	B1 cao
	(d)		7	1	B1 cao
	(e)		13	1	B1 cao
291	(a)		(£) 5.20	3	M1 for 8 × 0.6 (=4.8) or 8 × 60 (=480) M1 for 10 – "4.8" (=5.2) or 1000 – "480" (=520) A1 cao SC B2 for (£)8.87
	(b)*		Correct comparison	3	M1 for 10 × 0.85 (=8.5) or 5 × 1.13 (=5.65) A1 for 8.5 and 5.65 oe C1 (dep on M1) for correct comparison **OR** M1 for 10 × 85 (=850) or 5 × 113 (=565) A1 for 850 and 565 oe C1 (dep on M1) for correct comparison

Question		Working	Answer	Mark	Notes
292	(a)		410	2	M1 for $4 \times 90 + 50$ (=410) A1 cao
	(b)		9	3	M1 for one inverse operation eg −50 or ÷90 M1 for complete inverse operations, eg (860 – 50) ÷ 90 accept 860 – 50 ÷ 90 A1 cao **OR** M1 ft for finding the difference to part (a), ie 860 – "410" (=450) M1 for "450" ÷ 90 A1 cao
293		2p 1p ½ p Tot Sat 7 16 (31) 54 Sun (15) 14 17 (46) Tot (22)(30) 48 (100)	14	4	M1 for (total Sat bottles) 100 – 46 (=54) or (total ½ pint bottles) 100 – 22 – 30 (=48) or (total 2 pint bottles on Sat) 22 – 15 (=7) M1 for (total Sun bottles of ½ pint) "48" – 31 (=17) or (total Sat bottles of 1 pint: "54" – 31 – "7" (=16) M1 for 46 – 15 – "17" (=14) or 30 – "16" (=14) A1 cao NB any of the above figures could be shown in a 2-way table

Question		Working	Answer	Mark	Notes
294	(a)		37.4	1	B1 cao
	(b)		6500	2	M1 for sight of 3500 or attempt to count up from 3500 on scale or count down from 10000 on scale or 10000 – "3500" ["3500" in the range 3000 – 4000] or an answer which includes the digits 65 A1 cao
295	(a)		08 12	1	B1 cao
	(b)		6	2	M1 for evidence of counting on 15 minutes from 09 20, could be shown with table A1 cao
	(c)		17 35	1	B1 cao
296	(a)		4.40	3	M1 for a method to find the cost for one delivery method eg 19 + 7 × 0.7(0) (= 23.9(0)) or 16 + 7 × 0.5(0) (= 19.5(0)) M1 for a method to find the cost for **both** delivery methods **and** attempting to subtract eg 23.90 – 19.50 A1 cao Accept 4.4 **OR** M1 for method to find the difference between the two delivery costs eg 19−16 (=3) and 70-50 (=20) M1 for a method to find the "cost" using the differences eg "3" + 7 × "20" A1 cao Accept 4.4
	(b)		23	3	M1 for 25 – 16 (= 9) M1 for a method to divide "9" by 0.50 (= 18) A1 cao **OR** M1 for starting with 16 and a method to add on 0.50s M1 for starting with 16 and adding on 0.50s to within 0.50 of 25 A1 cao

Question		Working	Answer	Mark	Notes
297			18	3	M1 for $\frac{1}{10} \times 60$ (= 6) or $\frac{1}{10} + \frac{3}{5}$ or "$\frac{7}{10}$" oe M1 for $\frac{3}{5} \times 60$ (= 36) or 1 – "$\frac{7}{10}$" (= $\frac{3}{10}$) or "$\frac{7}{10}$" × 60 (= 42) A1 cao
298		40, 80, 120 15, 30, 45, 60, 75, 90, 105, 120 40 = 2 × 2 × 2 × 5 15 = 3 × 5	3 and 8 or any multiple of 3, 8	3	M1 for multiples of both 40 and 15 (at least 2 of each shown but condone errors if intention is clear) or 40 × 15 M1 (dep on M1) for a complete method to find a common multiple of 40 and 15, eg sight of 120, 240, 600, condoning one arithmetic error in any lists of multiples shown A1 for 3, 8 or any multiple of 3, 8 **OR** M1 for factors 2,2,2,5 and factors 3,5 M1 (dep on M1) for a complete method to find a common multiple of 40 and 15 A1 for 3, 8 or any multiple of 3, 8

Question		Working	Answer	Mark	Notes
299	(a)		56 000	1	B1 cao
	(b)		276	1	B1 cao
	(c)		6	1	B1 cao
	(d)		29	1	B1 cao
	(e)		13	1	B1 cao
300			3	3	M1 for attempt to find number of bags needed eg 254 ÷ 20 oe (= 12.7) **or**12 **or** 13 M1 (dep) for "254 ÷ 20" ÷ 5 oe (= 2.4) A1 cao **OR** M1 for 5 × 20 (=100) M1 (dep) for intention to find how many "100" in 254 (= 2.54) A1 cao
*301		Tables-R-Us 120 + (120 + 2 × 40) = 320 Fred's Furniture 120 + (32 × 6) = 312 Tables 'n Chairs 120 + (3 × 70) = 330	Fred's Furniture with working	4	M1 for correct method to find total cost of chairs (and table) for at least one shop M1 for correct method to find total cost of chairs (and table) for at least two shops A1 for 3 comparable totals (eg. chairs £200, £192, £210 **or** table and chairs £320, £312, £330) C1 (dep on M1) ft for correct statement with shop name from comparable figures
302	*(a)		No with working	2	M1 for 19.5 + 22.8 (= 42.3) **or** 40 − 19.5 − 22.8 (= −2.3) **or** 22 + 19 (= 41) C1 for statement with No and 42.3 **or** ±2.3 **or** 41 seen
	(b)		12 40	3	M1 for correct start eg. addition of two times **or** subtraction of one time from 1430 M1 for a complete method A1 for 12 40 (pm)

Question		Working	Answer	Mark	Notes
303			1340	4	M1 for 500 × 4 (= 2000) M1 for 960 – 300 (= 660) or "2000" + 300 (= 2300) or "2000" – 960 (= 1040) M1 (dep on M2) for a fully correct method eg "2000" – "660" or "2300" – "960" or "1040" + 300 A1 cao
304			2 × 2 × 3 × 3 × 5	3	M1 for continual prime factorisation (at least two consecutive steps correct) **or** at least two stages of a factor tree correct M1 for a fully correct factor tree **or** list 2, 2, 3, 3, 5 A1 for 2 × 2 × 3 × 3 × 5 or $2^2 \times 3^2 \times 5$

Question		Working	Answer	Mark	Notes
305	(a)		25, 52, 55, 102, 120	1	B1 cao
	(b)		–5, –2, 0, 3, 6	1	B1 cao
	(c)		0.06, 0.6, 0.603, 0.63, 0.633	1	B1 cao
306	(a)		0908	1	B1 cao
	(b)		15	1	B1 cao
	(c)		57	1	B1 cao
307	(a)		12	2	M1 for 48 ÷ 4 or 48 $\times\frac{1}{4}$ oe A1 cao
	(b)		250	3	B1 for 750 M1 for "750" ÷ 3 oe A1 cao
308	(a)		2	4	M1 for 20 × 2 + 30 (=70) M1 for 20 × 1.8 + 32 (=68) M1 (dep on M1) for "70" – "68" A1 cao
	(b)		40	3	M1 for 110 – 30 ÷ 2 or 110 = × 2 + 30 or 110 – 30 or ÷ 2 seen as second operation M1 for "(110 – 30)" ÷ 2 A1 cao NB accept reverse flowcharts for inverse operations SC if exact rule used: B2 for "(110 – 32)" ÷ 1.8

Question		Working	Answer	Mark	Notes
309	(a)		60	2	M1 for 300 ÷ 5 or 3 ÷ 5 oe A1 cao
	(b)		25p or £0.25	3	M1 for 100 ÷ 5 (= 20) M1 for "20" ÷ 80 or "20" × 100 ÷ 80 A1 for 25p or £0.25 OR M1 for 80 × 5 (= 400) M1 for 100 ÷ "400" or 100 × 100 ÷ "400" A1 for 25p or £0.25 OR M1 for 100 ÷ 80 (= 1.25) M1 for "1.25" ÷ 5 or "1.25" × 100 ÷ 5 A1 for 25p or £0.25 SC B2 for answer of 25 or 0.25
310			$\frac{4}{15}$	2	M1 for attempting to use a suitable common denominator with at least one of the two fractions correct A1 for $\frac{4}{15}$ oe
311		<table><tr><td></td><td>Sq</td><td>G</td><td>S</td><td>Tot</td></tr><tr><td>F</td><td>2</td><td>4</td><td>15</td><td>21</td></tr><tr><td>M</td><td>6</td><td>14</td><td>9</td><td>29</td></tr><tr><td>Tot</td><td>8</td><td>18</td><td>24</td><td>50</td></tr></table>	4	4	M1 for a correct first step which results in a value that could be in the table: eg. 50 – 18 – 8 (= 24) or 50 – 21 (= 29) or 8 – 6 (= 2) M1 for correct method to find a second value that could be in the table using their first value eg "29"-9-6 (=14) or "24"-9 (=15) M1 for a fully correct and complete method. A1 cao

Question		Working	Answer	Mark	Notes
312			157.50	3	M1 50 × 3 (=150) or 2.5 × 3 (=7.5) or 50 + 2.5 (=52.5) M1 "150" + "7.50" or 3 × "52.5" oe (=157.5) A1 cao SC B1 for final answer of 152.5(0) if M0 awarded
313	(a)(i)		8 40 oe	2	B1 for 8 40 oe
			9 40 oe		B1 for 9 40 oe
	(ii) (b)		15 20	1	B1 cao
314	(a)(i)		23	2	B1 cao
	ii)		284		B1 cao
	(b)(i)		71+95 or 91+75	2	B1 for showing addition of 71 and 95 **or** 91 and 75
	(ii)		166		B1ft for the sum of their two numbers given provided they used only the digits 5, 1, 7 and 9 exactly once each
315	(a)		10	1	B1 cao
	(b)		16	1	B1 cao
	(c)		-11	1	B1 cao
	(d)		17	1	B1 cao
	(e)		12-2×(3+1)	1	B1 cao
	(f)		Explanation/ reason	1	B1 Correct explanation of equivalence eg: Indication that the same operation needs to be applied to both numerator and denominator. Correct shading on diagrams to demonstrate 1 quarter and 2 eighths Conversion of both fractions to a common format 2 is $\frac{1}{4}$ of 8 oe

Question	Working	Answer	Mark	Notes
316		SB ST SV PB PT PV MB MT MV	2	M1 for at least 4 correct pairs A1 for all 9 combinations with no extras or repeats
*317		Yes with reasons	4	M1 for 14×100 (= 1400) or 18×100 (= 1800) or 230 + 50 + 30 (=310) M1 for "1400" + "310" **or** complete correct method to find 2 other comparable amounts A1 for £1710 total **or** £17.1(0) ticket price **or** £90 **or** £310 **and** £400 C1 for a clear statement and conclusion from their two correct comparable figures. **OR** M1 for 230÷100 or 50÷100 or 30÷100 M1 "2.30" + "0.50" + "0.3" + 14 A1 £17.1(0) C1 for a clear statement and conclusion from their two correct comparable figures.
318		0.6, 0.606, 65%, $\frac{2}{3}$	2	M1 for attempt to convert all to the same form for comparison with at least one correct conversion (Accept at least 0.66, 0.67 66%, 67% or better for $\frac{2}{3}$) A1 for a correctly ordered list (in any form) SC B1 for correct numbers in reverse order if no method seen.

Question		Working	Answer	Mark	Notes
319	(i)	20, 40, 60 12, 24, 36, 48, 60	3 and 5 or any multiple of 3, 5	4	M1 attempts multiples of both 20 and 12 (at least 3 of each shown but condone errors if intention is clear) or identifies 60 or a multiple of 60 M1 (dep on M1) for a division by 20 or 12 or counts up 'multiples' or identifies a common mulitple (implied if one answer is correct or answers reversed) A1 cheese slices (packets) 3, burgers (boxes) 5 or any multiple of 3, 5
		$20 = 4\times5 = 2\times2\times5$ $12 = 4\times3 = 2\times2\times3$			OR M1 for expansion of either 20 or 12 into factors M1 for demonstration that both expansions include 4 (or 2×2) A1 cao for cheese slices (packets) 3, burgers (boxes) 5
	(ii)		60		B1 for 60 or ft from their correct answer to (i) or ft "common multiple"

Question		Working	Answer	Mark	Notes
320	(a)		2	1	B1 cao
	(b)		Puffin Seal	1	B1 cao
	(c)	579 − 449	£130	2	M1 for identifying 579 **and** 449 (may be indicated in the table) A1 cao
	(d)		3.6m	3	M1 for 30 × 12 **or** digits 36 M1 (dep) for "360" ÷ 100 A1 for 3.6 or 3.60 or 3m 60cm **OR** M1 for 30 ÷100 (=0.3) M1 (dep) for "0.3"× 12 A1 for 3.6 or 3.60 or 3m 60cm
321	(a)		8	1	B1 cao
	(b)		- 1	1	B1 cao
322		Eg. 65 − 17 + 29 = 77 80 − "77"	3	3	M1 for 77 **or** a correct start to the process using at least two of the given figures M1 for a complete correct method A1 cao
323	(a)		34	1	B1 cao
	(b)		10 45	1	B1 10 45 accept any correct time notation, ignore am or pm
324			BA, BP, BO, AP, AO, PO	2	M1 for at least 3 correct pairs A1 for all 6 pairs, no extras or repeats

Question		Working	Answer	Mark	Notes
*325 WC			Shop B with working	4	**Considering cost of all pens** M1 for a correct start eg. 30 ÷ 3 or 10 **or** 3×10 **or** 30 ÷ 5 **or** 5×6 **or** 6 **or** list of at least six multiples of 3 or 5 M1 for complete correct method to find total cost for shop A **or** complete correct method to find total cost for shop B eg. for A : 30÷3×2 **or** 10×2 **or** list of multiples of 3 to 30 with (£)20 **or** 3×10 with (£)20 eg. for B : 30÷5×3 **or** 6×3 **or** list of multiples of 5 to 30 with (£)18 **or** 5×6 with (£)18 A1 for (£)20 and (£)18 C1 (dep on M1) ft for statement giving "Shop B" with two comparable figures [SC : B1 for (£)18 and (£)20 without working] **OR** **Considering cost of one pen (or could be for 15 pens)** M1 for correct method to find cost of one pen in shop A **or** correct method to find cost of one pen in shop B M1 for correct method to find cost of one pen in shop A **and** correct method to find cost of one pen in shop B A1 for 66.6...p rounded or truncated to at least 2 sig figs eg. 66(p) or 67(p) **and** 60(p) C1 (dep on M1) ft for statement giving "shop B" with two comparable figures [SC : B1 for 66.6...p rounded or truncated to at least 2 sig figs eg. 66(p) or 67(p) **and** 60(p) without working]

Question		Working	Answer	Mark	Notes
*326 WC			No and eg. £4.10, £4 or 10p	3	M1 for adding at least 3 of 1.25, 1.15, 85, 85 A1 for 4.1(0) or 410 C1 ft (dep on M1) for correct statement comparing £4 and their total (units must be given and correct) **or** for correct statement referring to difference eg. 10p short (units must be given and correct) **OR** M1 for finding at least one difference between coins and costs eg 2 – 0.85 – 0.85 or 1.15 – 1 or 1.25 – 1 A1 for 0.10 or 10 C1 ft (dep on M1) for correct statement referring to total difference units (must be given and correct) (SC : B1 for correct figures with no working eg. £4.10 and £4 **or** 10p)
327			2400	3	B1 for one of 20, 40, 3 or 300 M1 for "20"×"40"×"3" **or** "20"×"40"×"300") (values do not need to be rounded) A1 for answer in range 2280 − 2520 SC : Award B3 for an answer of 2400 if no working seen NB. An answer of 2416.05 implies B0 M1 A1

Question		Working	Answer	Mark	Notes
328		<table><tr><td></td><td>M</td><td>F</td><td>T</td></tr><tr><td>Train</td><td>5</td><td><u>10</u></td><td>15</td></tr><tr><td>Car</td><td><u>8</u></td><td>17</td><td>25</td></tr><tr><td>Total</td><td><u>13</u></td><td>27</td><td><u>40</u></td></tr></table>	25	3	**NB : There is often a choice of methods seen in responses to this question. When this occurs, the guidance given in point 7 of the marking principles must be followed - mark the method that leads to the answer** M1 for 40 – 13 **or** 27 female **or** 40 – (13+10) **or** 13 – 8 **or** 5 males and train M1 for a complete correct method eg. "27" – 10 + 8 **or** 40 – (10 + "5") A1 for 25 **OR** M1 for a 2-way table or diagram, with clear labeling showing at least 3 pieces of the given information correctly placed. M1 for 27 female or 5 male and train A1 cao (Note for award of the final A1, the 25 in the diagram must be highlighted in some way to indicate it is the final answer (or placed on the answer line))

Question	Working	Answer	Mark	Notes
*329		20p	5	M1 for a method to find the price of the apples M1 for a method to find or use the price of 3 oranges ie 3×30 OR -30-30-30 M1 for a method to combine the costs of 'their fruit' **or** for a method to total the coins M1 (dep on at least M1 from the first M2 scored) for a method to find the difference between 'their total of the coins' and the price of both 'their fruits'. Could be 'total'-'total' or coins –'total' or coins – individual prices. It must be physically possible. C1 (dep on M1) for £0.20 or 20p and valid working OR M1 for a method to find the price of the apples M1 for a method to find or use the price of 3 oranges ie 3×30 OR -30-30-30 M1 for a method to select coins that equate to 'their total' for one fruit M1 (dep on at least M1 from the first M2 scored) for a method to select coins that equate to 'their total' for both fruits C1 (dep on M1) for £0.20 or 20p and valid working SC B1 £0.20 or 20p as the answer , no working shown
330		3 primes that total 20	3	M1 for identifying at least 2 different prime numbers from the list, could indicate on the list (not more than one incorrect) M1 for any 3 numbers from the list that total 20 A1 for 2, 7, 11 or 2, 5, 13 or both (in any order)

Question		Working	Answer	Mark	Notes
331			09 36	3	M1 for listing 9, 18, 27, 36, 45, ... (at least 3 correct multiples with at most one incorrect) M1 for listing 12, 24, 36, 48, ... (at least 3 correct multiples with at most one incorrect) A1 for 09 36 or 9 36(am) OR M1 for listing 9.09 9.18 9.27 9.36 ... (at least 3 correct times with at most one incorrect) M1 for listing 9.12 9.24 9.36 ... (at least 3 correct times with at most one incorrect) A1 for 09 36 or 9 36(am) OR M1 for $9 = 3 \times 3$ **or** $12 = 2 \times 2 \times 3$ (could be in a factor tree) M1 for $9 = 3 \times 3$ **and** $12 = 2 \times 2 \times 3$ (could be in a factor tree) A1 for 09 36 or 9 36(am) SC B2 9 36pm or (after) 36 (minutes) on the answer line

Question		Working	Answer	Mark	Notes
332		183 × 47 1281 7320 8601 |	| | 1 | 8 | 3 | × | | | 4 | 3 / 2 | 1 / 2 | 4 | | 8 | 7 | 5 / 6 | 2 / 1 | 7 | | | 6 | 0 | 1 | | | 100 | 80 | 3 | | | 4000 | 3200 | 120 | 40 | | 700 | 560 | 21 | 7 | 4000 + 3200 +120 + 700 + 560 + 21 = 8601	86.01	3	M1 for a complete method to multiply 183 by 47 (condone one multiplication error) A1 for digits 8601 given as the answer B1 (dep on M1) for correctly writing their answer to 2 decimal places

Question		Working	Answer	Mark	Notes
333	(a)		43	1	B1 cao
	(b)	3 + 10	13	1	B1 cao
	(c)		7.1 – 7.9 inc.	1	B1 for answer in the range 7.1 – 7.9 inc
334		F + C + S 30 + 7 + 8 = 45 3×20 – 45 = 15	15	4	M2 for 30 + 7 + 8 (= 45) (M1 for 12 × 2 + 7 × 3 + 8 (= 53) or 12 × 2 + 7 × 2 (= 38)) M1 (dep on at least M1) for "20 × 3" – "45" or "20 × 3" – "53" A1 ca [SC: B1 for an answer of 22 if M0 scored]
335	(a)		08 50	1	B1 for 08 50 or 8 50 (am) or 10 to 9
	(b)	13 43 – 13 29	14	1	B1 cao
	(c)*	e.g. HL to SC: 11 02 – 11 41 Visit (at least 3 hours) SC to HL: 15 16 – 15 49 [Note : there are 9 possible solutions]	A fully correct plan showing departure times and arrival times of the two bus journeys	4	B1 for a departure time of 08 02 or 09 04 or 10 12 or 11 02 from HL M1 (indep) for a correct arrival time at SC and a correct departure time from SC (or Cartbridge St) which allows for a stay of at least 3 hours in SC (the differencing does not have to be seen) OR for correctly adding 3 hours to a their arrival time at SC B1 for a departure time from SC of 13 20 (13 11 from CS) or 14 24 (14 14 from CS) or 15 16 (15 07 from CS) C1 (dep on M1) for a complete correct plan which includes the departure and arrival times of the two bus journeys [Note: bus departure times may be identified by their starting times. Eg the 15 07 from Cartbridge Street would be acceptable for the identification of the bus which arrives a HL at 15 49]
336	(a)	3×3×3×3	81	1	B1 ca
	(b)		4	1	B1 ca

<table>
<tr><th colspan="2">Question</th><th>Working</th><th>Answer</th><th>Mark</th><th>Notes</th></tr>
<tr><td>337</td><td></td><td>e.g.
41 – 21 (=20)
49 – 10 – 20 (=19)
16 + 19 = 35

OR
(100 – 49) – (16 + 21) (=14)
14 + 10 (=24)
100 – (41 + 24) = 35

<table><tr><td></td><td>w</td><td>b</td><td>c</td><td></td></tr><tr><td>Boys</td><td>16</td><td>21</td><td>14</td><td>51</td></tr><tr><td>Girls</td><td>19</td><td>20</td><td>10</td><td>49</td></tr><tr><td></td><td>35</td><td>41</td><td>24</td><td>100</td></tr></table></td><td>35</td><td>4</td><td>M1 for 41 – 21 (= 20) or
M1 for 49 – 10 – ‘20’ (= 19)
M1 for 16 + ‘19’
A1 cao

OR
M1 for 100 – 49 (=51)
M1 for ‘51’ – 21 – 16 (= 14) and ‘14’ +10 (= 24)
M1 for 100 – (41 + ‘24’)
A1 cao

NB working may appear in table or diagram</td></tr>
</table>

Question		Working	Answer	Mark	Notes
338	(a)		380	1	B1 cao
	(b)		6.2	1	B1 cao
	(c)		Arrow at 34	1	B1 cao
339		£1.18 + 94p = £2.12 £5 – £2.12 – 30p = £2.58 £2.58 ÷ 2 =	1.29	3	M2 for (5 – 1.18 – 0.94 – 0.30) ÷ 2 oe **or** digits 129 (M1 for 1.18 + 0.94 **or** 2.12 seen **or** 1.18 + 0.94 + 0.30 oe **or** 2.42 seen **or** 5 – 1.18 – 0.94 oe **or** 2.88 seen **or** (5 – 1.18 – 0.94) ÷ 2 **or** 1.44 seen **or** 5 – 1.18 – 0.94 – 0.30 oe **or** 2.58 seen) A1 cao **NOTE:** Accept working in £ or pence
340			(P, B), (P, S), (P, L) (M, B), (M, S), (M, L) (H, B), (H, S), (H, L)	2	M1 for any 3 combinations with no incorrect combinations A1 for all 9 combinations with no duplicates or extras
341	(a)		9	1	B1 cao
	(b)		33	2	M1 for 5 Ò5 **or** 25 seen in the working **or** 2 Ò2 Ò2 **or** 8 seen in the working A1 cao
342	(a)(i)		07 29	2	B1 for 07 29
	(ii)		36		B1 for 36 or ft difference between (i) and 06 53
	(b)		07 51	1	B1 ca
	(c)		09 55	1	B1 for 09 55 or 9 55 or five to ten

Question		Working	Answer	Mark	Notes
343		1,96 × 2.25 = 4.41 **OR** 4.23 ÷ 9 = 0.47 1.96 ÷ 4 = 0.49 **OR** 4.23 × 4 = 16.92 1.96 × 9 = 17.64 **OR** 4.23 ÷ 9 = 0.47 0.47 × 4 = 1.88 **OR** 1.96 ÷ 4 = 0.49 0.49 × 9 = 4.41 **OR** 9 ÷ 4.23 = 2.12 4 ÷ 1.96 = 2.04	Pack of 9	3	M2 for a fully correct method to enable a conclusion eg 1.96 × 2¼ **OR** M1 for 4.23 ÷ 9 or 423 ÷ 9 **or** 0.47 seen **or** 47 seen M1 for 1.96 ÷ 4 or 196 ÷ 4 or 0.49 seen or 49 seen **OR** M1 for 4.23 × 4 **or** 423 × 4 **or** 16.92 seen **or** 1692 seen M1 for 1.96 × 9 **or** 196 × 9 **or** 17.64 seen **or** 1764 seen **OR** M1 for 4.23 ÷ 9 **or** 423 ÷ 9 **or** 0.47 seen **or** 47 seen M1 for 0.47 × 4 **or** 47 × 4 **or** 1.88 seen **or** 188 seen **OR** M1 for 1.96 ÷ 4 **or** 196 ÷ 4 **or** 0.49 seen **or** 49 seen M1 for 0.49 × 9 **or** 49 × 9 **or** 4.41 seen **or** 441 seen **OR** M1 for 9 ÷ 4.23 **or** 2.12(...) seen **or** 2.13 seen M1 for 4 ÷ 1.96 **or** 2.04(...) seen A1 for Pack of 9 and fully correct calculations **NOTE:** B0 for an answer of 9 not supported by working.

Question		Working	Answer	Mark	Notes
344		Acton after 24, 48, 72, 96, .. Barton after 20, 40, 60, 80, .. LCM of 20 and 24 is 120 9:00 am + 120 minutes **OR** Acton after 24, 48, 1h 12 min... Barton after 20, 40, 1 h LCM is 2 hours 9:00 am + 2 hours **OR** Times from 9:00 am when each service leaves the bus station Acton at 9:24, 9:48, 10:12.. Barton at 9:20, 9:40, 10:00.. **OR** $20 = 2 \times 2 \times 5$ $24 = 2 \times 2 \times 2 \times 3$ $2 \times 2 \times 2 \times 3 \times 5 = 120$	11:00 am	3	M1 for listing multiples of 20 and 24 with at least 3 numbers in each list ; multiples could be given in minutes or in hours and minutes (condone one addition error in total in first 3 numbers in lists) A1 identify 120 (mins) **or** 2 (hours) as LCM A1 for 11:00 (am) **or** 11(am) **or** 11 o'clock **OR** M1 for listing times after 9am when each bus leaves the bus station, with at least 3 times in each list (condone one addition error in total in first 3 times after 9am in lists) A1 for correct times in each list up to and including 11:00 A1 for 11:00 (am) **or** 11(am) **or** 11 o'clock **OR** M1 for correct method to write 20 and 24 in terms of their prime factors 2, 2, 5 and 2, 2, 2, 3 (condone one error) A1 identify 120 as LCM A1 for 11:00 (am) **or** 11(am) **or** 11 o'clock

Question		Working	Answer	Mark	Additional Guidance
345	(a)		65	1	B1 cao
	(b)	5 – 3.8	1.2	2	M1 5 – 3.8 A1 cao
					Total for Question: 3 marks
346		44 – 8 = 36 36 + 19 = 55 47 + 3 = 53 **OR** 44 + 19 – 8 = 55 47 + 6 = 53 **OR** 47 – 44 = 3 3 + 8 = 11 19 – 11 – 6= 2	2 (with appropriate reason)	2	M1 Clear attempt to find the number of spaces available on the bus after the bus stops A1 reason for answer which must comment on the difference between 55 and 53
					Total for Question: 2 marks
347 **FE**	(a)		2 correct combinations	2	B1 Single burger and regular cola oe B1 Regular fries and regular cola oe –1 for each extra incorrect
	(b)	Best is Cost 3.49 + 1.70 = 5.19 Change = 10.00 – 5.19	£4.81	3	M1 2 correct individual costs found M1 sum and subtract from £10 A1 cao SC B2 5.24 (B1 2 × 1.70 + 0.99 + 0.85 = (5.24))
					Total for Question: 5 marks

Question	Working	Answer	Mark	Notes
348 (a)		6500	1	B1 cao
(b)		168	1	B1 cao
(c)		Arrow at 7.2	1	B1 cao
349		54	3	M1 for 200 ÷ 3.85 (= 51.94.. or 51) or 200 ÷ 3.65 (= 54.79.. or 54) or 200 ÷ 3.49 (= 57.31.. or 57) M1 for working out all of the above, or an answer of 54.79... A1 cao
350	SP, SL, SR, SF, SC, MP, ML, MR, MF, MC	10 outcomes	2	M1 for at least 4 correct outcomes A1 for all 10 correct outcomes with no incorrect outcomes and no repeats
351		Yes with correct calculations	3	M1 for 768 ÷ 56 (= 13.71...or 14) OR 13 × 56 (=728) or 14 × 56 (=784) M1 for (768 – 19) ÷ 56 (= 13.375) OR for [13 × 56 (=728) or 14 × 56 (=784)] **and** 768 – 19 (= 749) A1 for correct conclusion from correct calculations, eg Yes, he still needs 14 buses.
352 (a)		0927	1	B1 cao
(b)		12	2	M1 for method to add 50 minutes to 0935 (= 1025) or method to find the difference between 0935 and 1013 (= 38) A1 cao
*353		Vans for hire and correct calculations	5	M1 for method to find $\frac{1}{3}$ of 87 (= 29) or $\frac{2}{3}$ of 87 (= 58) oe M1 for complete method to find cost for Best vans, eg (87 – "29") × 2 (=116) M1 for method to find the cost of the extra miles, eg (400 – 250) × 0.15 (= 22.50) or (400 – 250) × 15 (= 2250) M1 for complete method to find cost for Vans for hire, eg 44 × 2 + "22.50" (=110.5(0)) with consistent units C1 for Vans for hire and 116 and 110.5(0)
354	$\frac{2}{5}$, 0.405, 41%, $\frac{3}{7}$, 0.45	Ordered numbers	2	M1 for conversion to decimals or conversion to percentages or correct order with one error or correct order but reversed. A1 for correct order

Question	Working	Answer	Mark	Notes
355		531	2	M1 for 565 − 143 (= 422) or 565 + 109 (= 674) or for 143 − 109 (= 34) A1 cao
356 (a)		2	1	B1 cao
(b)		14	1	B1 Accept −14
357		76p	3	M1 for 1000 ÷ 84 or 10 ÷ 0.84 (= 11.90…) or 11 × 84 (=924) or 11 × 0.84 (=9.24) or 11 given as the answer. M1 for complete method to find the change (showing figures in compatible units) or 76 as the answer no/incorrect units. A1 for 76p or £0.76 or £0.76p
*358		Jane should buy Greens Garden Shop + costs	4	M1 for Suttons: 140 ÷ 20 (= 7) bags of compost needed M1 for 3 × 3.25 (= 9.75) + 1 × 2.25 (=12) M1 for Greens: cost of 2 bags eg × 4.99 (= 9.98) , 2 × 5 (=10) etc. C1 for correct conclusion from a comparison of correct appropriate figures
359 (i)		72	3	B1 cao
(ii)		5		B1 cao
(iii)		5 or 31		B1 cao
360 (a)		6.7	1	B1 for 6.7
(b)		0.064	2	B2 for 0.064 (B1 for 15.625 oe or 0.4 oe)

Question	Working	Answer	Mark	Notes
*361		large carton with correct calculations	3	M1 for 1.60 ÷ 125 (= 0.0128) or 2.8 ÷ 225 (= 0.0124(4…) or 125 ÷ 1.60 (= 78(.125(g)) or 225 ÷ 2.80 (= 80(.35…g)) or any other calculation that could lead to a comparative figure M1 for 1.60 ÷ 125 (= 0.0128) **and** 2.8 ÷ 225 (= 0.0124(4…) or for 125 ÷ 1.60 (= 78(.125(g)) **and** 225 ÷ 2.80 (= 80(.35…g)) or for calculations that could lead to comparative figures for the 2 cartons C1 for correct comparative figures for both cartons leading to a correctly stated comparison. Accept any other method considered equivalent. Figures may be truncated or rounded as long as their method is clear.

Question	Working	Answer	Mark	Notes
362	30×8p + 40×4p = 400p 30×3p + 40×2p = 170p 400 – 170 = 230 OR (8 – 3) × 30 = 150p (4 – 2) × 40 = 80p 150 + 80 = 230	2.30	3	M1 for a complete method to find the cost for one company M1 for a complete method to find the cost for both companies and finding the difference A1 cao OR M1 for a complete method to find the differences in cost for calls or texts M1 for a complete method to find the amount saved and finding the sum A1 cao **SC:** B2 for an answer with digits 23
363 (a)		2.7	1	B1 cao
(b)		9261	1	B1 cao
*364	400 ÷ 18 = 22(.2) 499 ÷ 20 = 24(.95) or 25 600 ÷ 26 = 23(.07…) (or equivalent in £) 18 ÷ 4 = 4.5 20 ÷ 4.99 = 4(.008…) 26 ÷ 6 = 4.3(333…)	18 pack (supported)	4	M1 for a method that would result in at least two values that could be used to compare two packs M1 for a method that would result in values that could be used to compare all three packs A1 for all fully correct figures suitable for comparison C1 ft (dep on M2) for comparison of their values with a correct conclusion from their figures

Question		Working	Answer	Mark	Notes
365	(a)		2 hours 20 minutes	2	M1 for a full method to find the difference between the two times or 2.2 hours A1 2 hours and 20 minutes or 140 minutes
	*(b)		No with supporting calculations	3	M1 for adding 18 and 24 to 20 50 A1 21 32 C1 (dep M1) correct conclusion from the comparison of their figure with 21 30 Or M1 for subtracting 18 and 24 from 21 30 A1 20 48 C1 (dep M1) correct conclusion from the comparison of their figure with 20 50 Or M1 for finding the time differences A1 for 40 minutes and 42 minutes C1 (dep M1) correct conclusion from the comparison of their time durations
366	(a)		£1.11 and £2.68	3	B1 for (£)1.11 or 111(p) B1 for (£)2.68 or 268(p) or ft from "£1.11" B1 for correct units
	(b)		No (from correct calculations)	3	M1 for finding the value of the coins M1 for a complete method to find the total value of the voucher and coins A1 correct conclusion from correct calculations, eg No, she only has £5.30 Or M1 for finding the difference between the price of the book and the voucher or the price of the book and the coins M1 for a complete method to find the difference between the book and the voucher AND the coins A1 correct conclusion from correct calculations, eg No, she is 20p short

Question		Working	Answer	Mark	Notes
367	(a)		−11	2	M1 for −5 + 12 − 18 oe A1cao
	(b)		24	2	M1 for a method to find the difference eg 18 – −6 or 18 + 6 or use of a number line A1 for 24 accept −24
368			14	2	M1 for 10 – 6 and "4" + 10 or for 10 – 6 and "4"× 2 + 6 A1 for 14 or 10 adults and 4 children
369	(a)		3.5	1	B1 cao
	(b)		8	2	B2 cao (B1 for 17.68 or 2.21)
370		0.65 × 80 = 52 $\frac{5}{8} \times 80 = 50$ $\frac{5}{8} = 0.625, 62.5\%$ 0.65 – 0.625 = 0.025 0.025 × 80	2	4	M1 for method to calculate the time Celina sings M1 for method to calculate the time Zoe sings M1 (dep on at least M1) for finding the difference between two times A1 cao Or M1 for a conversion to all decimals, fractions or percentages M1 for finding their difference in their chosen system M1 (dep on at least M1) for using their proportional difference multiplied by 80 A1 cao
*371			125m*l*	4	M1 for a complete method to find the cost per m*l* or the number of m*l* per £1 for one tube or for a method that results in at least two values that can be used to compare two tubes M1 for a complete method to find all three equivalent figures A1 3 correct figures suitable for comparison C1(dep on M2) for stating the correct tube size from their calculations

Q371	Per 25ml	Per ml	Per £
50ml	54.5	2.18	45.87155...
75ml	56	2.24	44.64285...
125ml	53.8	2.152	46.46840...

Question		Working	Answer	Mark	Notes
372	(a)		17.1	1	B1 cao
	(b)		1.3	1	B1 cao
	(c)		10.24	1	B1 cao
373		4 × 17 + 3	71	2	M1 for a complete method seen or 68 given as the answer A1 cao
374			9	3	M1 for two correct operations seen or implied M1 for a complete method A1 cao OR M1 for 13 + 5 (= 18) and 4 + 7 (= 11) M1 for a complete method A1
*375			£52.74 or 5274p	4	M1 for subtracting to find the units used (= 293) M1 for '293' × 18 or '293' × 0.18 A1 for 52.74 or 5274 C1 (dep M2) for identifying their answer with the correct monetary units OR M1 for 2968 × 18 (= 53424) or 2675 × 18 (= 48150) or 2968 × 0.18 (= 534.24) or 2675 × 0.18 (= 481.50) M1 for subtracting their two costs (consistent in pence or pounds) A1 for 52.74 or 5274 C1 (dep M2) for identifying their answer with the correct monetary units
376	(a)	2,5	2 or 5	1	B1 cao
	(b)	1, 4, 9, 16 1 + 4 + 16	1, 4, 16	2	M1 for identifying at least 2 different square numbers from the list A1 cao

Question		Working	Answer	Mark	Notes
377			45	4	M1 for finding the price of 1 kg or 0.5 kg of oranges M1 for using their value to find the price of 4.5 kg of oranges M1 (dep M2) for a complete method to find the price of 1 kg of apples A1 oe

Question		Working	Answer	Mark	Notes
378	(a)		0.7	1	B1
	(b)		45	1	B1 cao
	(c)		$\frac{3}{10}$	2	M1 for $\frac{30}{100}$ or equivalent fraction A1 cao
	(d)		2.74	1	B1 cao
379	(a)		85.50	2	M1 for 2×12.75 + 3×20 or 12.75+3×20 (=72.75) A1 for 85.5(0)
	(b)		16	3	M1 (ft from (a)) for subtracting cost of 1 or 2 or 5 lessons from 305.50 305.50 – "2×12.75" (= 280) or 305.50 – "85.50" (=220) or 305.50 – 12.75 (=292.75) M1 for "280" ÷ 20 (= 14) or "220 ÷ 20 (= 11) or 292.75 ÷ 20 A1 cao OR M1 for adding 20s to cost of 1 or 2 or 5 lessons eg 12.75 or "2×12.75" or "85.50" and intention to add on 20s or 14×20 or 11×20 M1 for "2×12.75" or "85.50" and adding 20s to within 20 of 305.50 A1 cao
380		0657 0657 0719 0719 0710 0710 0733 0733 0745 0758 0745 0758 0850 0927 0850 0927 0920 0957 0920 0957	Fully correct schedule	3	B1 for 0657 or 0719 with correct arrival time in Peterborough **or** for 0745 or 0758 with associated arrival time in York B1 for fully correct departure times and arrival times for 2 train journeys that enable travel from Stamford to York to arrive by 0930 B1 ft for arrival time at meeting 30 mins after York arrival
381			89.3855	2	M1 for 3.8 or 23.5225 or 18.43 or 36.86 or 89.3855 seen only rounded or truncated to at least 3 sig figs A1 cao

Question		Working	Answer	Mark	Notes
382			3.25	3	M1 for 2 × 9.25 + 9.50 + 10.55 + 4 × 4.55 (= 56.75) or at least one of each item added M1(dep) for 3 × 20 − "56.75" A1 cao (SC B2 for answer 26.15) (SC B1 for answer of 13.85 or 36.75)
383			3.25	1	B1 for 3.25 oe
384	(a)		28 600	1	B1 cao
	(b)		20 000	1	B1 cao
	(c)		22 950	1	B1 cao
385		(D, A) (J, A) (W, A) (D, M) (J, M) (W, M)	list of 6 combinations	2	B2 for six correct and distinct pairs (B1 for at least 3 pairs and no incorrect pairs or all correct pairs with repeats)
386			4.80	3	M1 for 3.50 × 12 (= 42) M1 for "42" − 37.20 A1 for 4.8(0) **OR** M1 for 37.20 ÷ 12 (= 3.10) M1 for (3.50 − "3.10") × 12 A1 for 4.8(0) **Or** M1 for 37.20 ÷ 12 (= 3.10) M1 for 3.50 − "3.10" A1 for 0.4(0) or 40p

Question		Working	Answer	Mark	Notes
387	(a)		126, 21	3	B1 for 126 (seats) M1 for method identified to divide number of people by 6, ie "126" ÷ 6 or 84 ÷ 6 (= 14) or 42 ÷ 6 (=7) A1 for 21 (tables)
	(b)		Yes with £483	3	M1 for 84 × 4.5(0) (= 378) or 42 × 2.5(0) (= 105) M1 for 84 × 4.5(0) + 42 × 2.5(0) or "378" + "105" A1 for e.g. yes **and** (£)483 **or** yes **with** (£)17 left
388	(a)(i)		2 or 3	2	B1 cao
	(ii)		12 or 24		B1 cao
	(b)		correct explanation	1	B1 for explanation eg "2 is prime"

Question	Working	Answer	Mark	Notes
389 (a)		1 hour 40 minutes	2	M1 for correct working shown to find the difference between 17 50 and 19 30 e.g. using a carry of 60 minutes in a take away or counting on from 17 50 to 19 30 A1 for 1 hr 40 mins or 100 mins
(b)		7	3	M1 for $2 \times 20 - 8.5$ (= 31.5) **or** $20 - 8.5$ (= 11.5) M1 (dep) for "31.5" ÷ 4.5 **or** (20 + "11.5") ÷ 4.5 **or** 7 × 4.5 oe (eg by addition/subtraction method) A1 cao
*390		34 or 33	4	M1 for one operation e.g. 12 × 4.5 (= 54) **or** 12 × 5 (= 60) **or** 4.5 × 5 (= 22.5) **or** ÷8 M1 for two operations e.g. 12 × 4.5 × 5 (= 270) **or** 12 × 4.5 ÷ 8 (= 6.75) **or** 4.5 × 5 ÷ 8 (= 2.8125) **or** 12 × 5 ÷ 8 (7.5) M1 for a complete method e.g. 12 × 4.5 × 5 ÷ 8 (=33.75) C1 for 34 accept 33 clearly identified from correct calculations and correct figures

Question	Working	Answer	Mark	Notes
*391		Small with correct figures for comparison	4	M1 for one calculation e.g. 6.5 ÷ 30 (=0.216...) **or** 8.95 ÷ 40 (=0.22375) **or** 10.99 ÷ 50 (=0.2198) M1 for all three calculations e.g. of 6.5 ÷ 30 (=0.216...) **and** 8.95 ÷ 40 (=0.22375) **and** 10.99 ÷ 50 (=0.2198); A1 for 0.216... **and** 0.22375 **and** 0.2198... can be rounded or truncated as long as they remain different C1 (dep on M1) for conclusion ft from three comparable figures [could use different figures relating to 30, 40, 50] **OR** M1 for one calculation e.g 6.5 × 20 (=130) **or** 8.95 × 15 (=134.25) **or** 10.99 × 12 (=131.88) M1 for three calculations e.g. 6.5 × 20 (=130) **and** 8.95 × 15 (=134.25) **and** 10.99 × 12 (=131.88) A1 for 130 **and** 134.25 **and** 131.88 can be rounded or truncated as long as they remain different C1 (dep on M1) for conclusion ft from three comparable figures [or any other calculations leading to comparable figures e.g. cost of 600 plants or comparing small and medium and small and large e.g. 120 plants and 150 plants separately] **Or** M1 for one calculation e.g 30 ÷ 6.5 (= 4.615…) **or** 40 ÷ 8.95 (= 4.469…) **or** 50 ÷ 10.99 (= 4.549…) M1 for three calculations e.g. 30 ÷ 6.5 (= 4.615…) **and** 40 ÷ 8.05 (= 4.469…) **and** 50 ÷ 10.99 (= 4.549…) A1 for 4.615… **and** 4.469… **and** 4.549… can be rounded or truncated as long as they remain different C1 (dep on M1) for conclusion ft from three comparable figures [or any other calculations leading to comparable figures]
392 (a)		34.81	1	B1 cao
(b)(i)		35.1606....	2	B1 for 35.1606(7977...)
(ii)		35.2		B1 ft from (i) provided (i) has more than one decimal place

Question	Working	Answer	Mark	Notes
393		19	4	M1 for 130 − 96 (=34) M1 for 73 − 55 (=18) M1 for“34” − 9 – “18” + 12 A1cao **OR** M1 for. 96 − 55 − 12 (=29) M1 for 9 + “29” (=38) M1 for 130 − 73 – “38” A1 cao

Question 393:

	F	S	G	
W	12	55		96
M	**7**	**18**	9	**34**
	19	73		130

	F	S	G	
W	12	55	**29**	96
M			9	
	19	73	**38**	130

Question		Working	Answer	Mark	Notes
394	(a)		12	1	B1 cao
	(b)		14	1	B1 cao
	(c)		16	1	B1 cao
*395			Correct statement	4	M1 for 6.50 × 8 + 12 or 6.50 × 7 + 15 M1 for 6.50 × 8 + 12 and 6.50 × 7 + 15 A1 for 64 and 60.5(0) C1 (dep on first M1) for correct statement ft their figures OR M1 for 6.50 × (8−7) or 15−12 M1 for 6.50 × (8−7) and 15−12 A1 for 6.5(0) and 3 C1 (dep on first M1) for correct statement ft their figures [SC If no working shown B1 for 64 and 60.5(0) **or** B1 for 6.5(0) and 3]
396			2.70	3	M1 for 2 × 1.40 + 2.10 + 2.40 (= 7.30) M1 (dep) for 10 – '7.30' or 2.7(0) A1 for 2.70 in correct money notation OR M1 for subtracting at least 2 different correct costs from (£)10 M1 for 10 – 1.40 – 1.40 – 2.10 – 2.40 A1 for 2.70 in correct money notation [SC B1 for 4.10 in correct money notation]

Question		Working	Answer	Mark	Notes
397	(a)		240	1	B1 for 240
	(b)		arrow at 125°C	1	B1 for arrow (or line) pointing within a range of 122.5 to 127.5 (ie nearer to 125 than either 120 or 130) Use professional judgement.
	(c)		6.05 (pm)	1	B1 for 6.05 (pm) oe
398			66	2	M1 for a correct method to find the number of people on the bus if the 15 get off first. (= 57) A1 cao OR M1 for a correct method to find the number of people on the bus if the 9 get on first. (= 81) A1 cao OR M1 for a correct method to find the net change in the number of people on the bus (= 6 or −6) A1 cao
399		20 − 6.65 13.35 ÷ 3	4.45	3	M1 for a correct method to find the amount shared by B, R and T M1 (dep) for a correct method of dividing this amount by 3 A1 cao [SC: B1 for an answer of 17.78 (20 – 6.65 ÷ 3), if M0 scored, with or without working]

Question		Working	Answer	Mark	Notes
400	(i)		5,15 or 5,125 or 15,125 or 30,50 or 30,60 or 30,90 or 30,100 or 50,60 or 50,90 or 50,100 or 60,90 or 60,100 or 90,100	4	B1 for 2 numbers, from the list, whose sum is an even number.
	(ii)		60 or 100		B1 for 60 or 100 or both
	(iii)		5 or 15		B1 for 5 or 15 or both
	(iv)		125		B1 cao
401		9.39 × 10 24.30 × 3 + 9.39 93.90 − 82.29	£11.61	5	M1 for a correct method to find the most expensive way to buy the 10 cartridges (= 93.90) M1 for a correct method to find the least expensive way to buy the 10 cartridges (= 82.29) M1 (dep on M1 scored) for a correct method to find the difference between their least and their most expensive way, provided that both totals are for the cost of exactly 10 cartridges A1 for 11.61 B1 (indep) for correct units
402	(a)(i)		12.978(61279…)	2	B1 for 12.978(…..)
	(ii)		13		B1 for 13 or ft from a(i) [Note: An answer of 13.0 gets B0]
	(b)		100000	1	B1 cao

Question		Working	Answer	Mark	Notes
403	(a)		3600	1	B1 for 3600
	(b)		1.8	1	B1 for 1.8
	(c)		3.6 shown	1	B1 for 3.6 marked on number line
404	(a)		16 or 4	1	B1 for 4 or 16 (or both)
	(b)		21	1	B1 cao
	(c)		10 or 15	1	B1 10 or 15 (or both)
405	(a)	30 + 8×4	62	2	M1 for 30 + 8×4 or attempt to add four 8s to 30 (allow one error in addition) A1 cao
	(b)	110 – 30 = 80 80÷8 = 10 **OR** 110 – 62 = 48 48÷8 = 6 4 + 6 = 10	10	3	M1 for 110 – 30 (=80) M1 (dep) for '80' ÷ 8 or A1 cao OR M1 for 110 – 62 (= 48) M1(dep) for '48'÷8 = 6 A1 cao
*406		3 ×9.58 + 12.61 + 7.06 + 4.41 (= 52.82)	Yes + working	4	M2 for 3 ×9.58 (=28.74) + 12.61 + 7.06 + 4.41 or 55 − 3 ×9.58 (=28.74) − 12.61 −7.06 − 4.41 (M1 for at least 2 correct costs seen) A1 for 52.82 or 2.18 C1 (dep M1) for comparison and correct deduction using their total cost or amount left

Question		Working	Answer	Mark	Notes
407		180÷30 = 6 9 + 6 + 0.5+0.5 = 16	16:00 or 4pm	3	M1 for 180÷30 (= 6) or 30 + 30 +…to a total of between 150 and 210 exclusive M1 for 9 + '6' + 0.5 + 0.5 A1 for 16:00 or 4pm (accept 4 o'clock) OR M1 for 60 bricks used or 120 bricks left at 11 am M1 for 45 bricks used between 11 30 am and 1 pm or 75 bricks left at 1 pm A1 for 16:00 or 4pm (accept 4 o'clock) (SC B1 for 3 pm or 3 30pm if M0 scored) (SC B1 for 7 hours needed if M0 scored)
408		$\frac{\sqrt{20.4}}{6.2\times0.48}=\frac{4.5166359}{2.976}$	1.5176(868)	2	B2 for 1.5176… (B1 for sight of 4.51(66359..) **or** 4.52 **or** 2.976 **or** 2.98 **or** 1.51 **or** 1.52 **or** 1.518 **or** or 1.517 **or** 1.5177 **or** $\frac{\sqrt{510}}{5}$)

Question		Working	Answer	Mark	Notes
409		10 ÷ 0.79 =12.65… 12×79 = 948 1000 – 948	52p	3	M1 for 1000 ÷ 79 **or** 10 ÷ 0.79 (=12.65…) **or** 12 × 79 **or** 12 × 0.79 A1 for 9.48 or 948 A1 for 52p or £0.52 or £0.52p (SC if M0 then B2 for 0.52, 0.52p or 52 as answer) (SC if M0 then B1 for 12 as answer)
410	(a)		10 30	1	B1 10 30 **or** 22 30 **or** half past ten or 10.30 etc
	(b)		16 10	1	B1 16 10 Accept 16:10 and 16.10
	(c)		6 50 am	2	M1 for attempt to add 10 mins and 15 mins and 1 hour (= 1 hr 25 min) A1 for 6 50 or 6 50 am oe **OR** M1 for attempt to subtract 10 mins and 15 mins and 1 hour from 8 15 A1 for 6 50 or 6 50 am oe
411			eg. 10, 12, 5, 2	3	M1 for at least 2 factors of 60 clearly identified M1 for 20 < sum of '4 distinct natural numbers' < 35 A1 cao

Question		Working	Answer	Mark	Notes
*412			Farm shop	4	M1 for 12.5 ÷ 2.5 (=5) M1 for '5'×1.83 or '5' × 183 A1 for (£)9.15 or 915(p) C1 for decision ft working shown dep on at least M1 **OR** M1 for 12.5 ÷ 2.5 (=5) M1 for 9 ÷ 5 or 900 ÷ '5' A1 for (£)1.8(0) or 180(p) C1 for decision ft working shown dep on at least M1 **OR** M1 for 9 ÷ 12.5 (=0.72) **or** 1.83 ÷ 2.5 (=0.732) M1 for 9 ÷ 12.5 (=0.72) **and** 1.83 ÷ 2.5 (=0.732) A1 for 72(p) and 73.(2)(p) or (£)0.72 and (£)0.73(2) C1 for decision ft working shown dep on at least M1 **OR** M1 for 12.5 ÷ 9 (= 1.388...) oe M1 for 2.5 ÷ 1.83 (= 1.366.)oe A1 for 1.38.... **and** 1.36... truncated or rounded to at least 3SF C1 for decision ft working shown dep on at least M1