Q1. (2018)

11	**Alternative method 1 – coaches, income, fuel, drivers, profit, answer**		
	6	B1	number of coaches
	300 × 25 or 7500 or 50 × 25 or 1250	M1	total income for one or all coaches
	(their 6) × 200 × 0.7 or 140 or 840 or (their 6) × 200 × 70 or 14 000 or 84 000	M1	cost of fuel for one or all coaches 140 is implied by 230 (fuel + one driver)
	their 6 × 90 or 540 or their 1250 – their 140 – 90 or 1020	M1	cost of all drivers or profit for one coach
	their 7500 – their 840 – their 540 or their 6 × their 1020	M1dep	oe method to calculate profit must be consistent units dependent on M3
	6120	A1	

Q2. (2018)

31	**Alternative method 1 – width of small rectangle is x (any letter)**		
	x and $2x$ or $x + 2x + x + 2x$ or $6x$	M1	oe
	$x + 2x + x + 2x = 15$ or $6x = 15$	M1dep	oe
	$(x =)$ 2.5	A1	from correct working or with 5 as the other dimension or with 7.5 as the length of the large rectangle
	25	A1ft	ft 10 × their 2.5 with M1M1 awarded
	Alternative method 2 – length of small rectangle is x (any letter)		
	x and $\frac{x}{2}$ or $x + \frac{x}{2} + x + \frac{x}{2}$ or $3x$	M1	oe
	$x + \frac{x}{2} + x + \frac{x}{2} = 15$ or $3x = 15$	M1dep	oe
	$(x =)$ 5	A1	from correct working or with 2.5 as the other dimension or with 7.5 as the length of the large rectangle
	25	A1ft	ft 5 × their 5 with M1M1 awarded
	Alternative method 3 – **a = width of small rectangle and b = length of small rectangle (any letters)**		
	$b = 2a$ or $10a$ or $5b$	M1	correct expression for perimeter of the large rectangle in one variable
	$6a = 15$ or $3b = 15$	M1dep	correct equation in one variable
	$(a =)$ 2.5 or $(b =)$ 5	A1	from correct working or with both values correct or with one value correct and 7.5 as the length of the large rectangle
	25	A1ft	ft 10 × their a or 5 × their b with M1M1 awarded

Q3. (2019)

7	7 + 5 or 12 or 17 or 36	M1	
	19 or 19.00	A1	19.0 is M1A0
	Additional Guidance		
	Ignore names if used		
	Condone £19p or £19.00p		M1A1

Q4. (2019)

5(a)	382.4 or 362.42 or 15.82	B1	implied by correct answer of 380.32 384.48 or 344.52 implies B1 (both additions or both subtractions)
	380.32	B1ft	ft correct evaluation of their 382.4 – 2.08 or their 362.42 ÷ 17.9 or their 15.82 + 364.5
	Additional Guidance		
	Do not apply a misread or allow follow through if this results in a subtraction of either two 2 decimal place values or two 1 decimal place values		

Q5. (2019)

5(b)	18.72	B1	oe eg 18.720

Q6. (2019)

(A)

10(a)	**Alternative method 1**		
	820 ÷ 50 or 82 ÷ 5	M1	oe eg 1640 ÷ 100 eg counting up in 50s to at least 800 (allow one error) eg counting down in 50s to less than 50 (allow one error)
	16.4 or 16+ or over 16	A1	oe eg 16 r 20 or 16 with 20 left allow 16 if 17 is final answer
	17	A1ft	ft rounding up from a decimal, fraction or remainder with M1 awarded
	Alternative method 2		
	850	M1	
	850 ÷ 50	M1dep	oe eg 85 ÷ 5 eg counting up in 50s to try to achieve 850 (allow one error) eg counting down in 50s to at least 50 (allow one error)
	17	A1	
	Additional Guidance		
	Incorrect remainders or decimals or fractions cannot score the second mark eg 820 ÷ 50 = 16.2 answer 17		M1A0A1ft
	Remainder or decimal not shown, leading to answer of 17 will score full marks eg 820 ÷ 50 = 16. answer 17		M1A1A1ft
	A1ft cannot be scored if their division does not yield a remainder eg 820 ÷ 50 = (exactly) 14 answer 14		M1A0A0ft
	800 ÷ 50 or 16 implies M1 from Alt 1		
	800 ÷ 50 = 16 so 17 needed (oe)		M1A1A1
	If 82 ÷ 5 is attempted, allow 16 r 2 or 16 with 2 left over for the first A1		

(B)

10(b)	13 × 450	M1	Accept repeated addition of thirteen 450s
	Correct vertical method of long multiplication with 4500 correct or Correct vertical method of long multiplication with at least one of 650 and 5200 correct or Correct set up of grid method with at least three of the four or six products correct or Correct set up of Gelosia method with at least three of the six products correct or 10 × 450 = 4500 and 3 × 450 = 1350 attempted with at least one correct or 13 × 400 = 5200 and 13 × 50 = 650 attempted with at least one correct	M1dep	oe Allow a placeholder space to be present instead of a physical zero in vertical method
	5850	A1	
	Additional Guidance		
	For repeated addition method, to score M1dep, answer must end in 50 with a 6 carried into the hundreds column		
	Students may choose to multiply 13 by 45 using any method, for the method marks. We do not need the zero to be recovered for either method mark, so 13 × 45 scores at least M1		
	eg 13 × 45 = 585 scores M2 even if answer line gives 585		M2
	eg 13 × 45 vertical method with 450 correct or at least one of 65 and 520 correct		M2
	eg 13 × 45 using grid method with 40 and 5 rather than 400, 50 and 0, with three of the four products correct		M2
	eg 13 × 45 using Gelosia method with no zero column, with at least three (of the now four) products correct		M2

Q7. (2020)

Q	Answer	Mark	Comments
9	**Alternative method 1**		
	(12 – 8) × 1200 or 4 × 1200 or 4800	M1	oe
	12 500 – 7600 or 4900	M1	oe
	4800 and 4900 and No	A1	
	Alternative method 2		
	(12 – 8) × 1200 or 4 × 1200 or 4800	M1	oe
	12 500 – their 4800 or 7700	M1dep	oe
	7700 and No	A1	
	Alternative method 3		
	(12 – 8) × 1200 or 4 × 1200 or 4800	M1	oe
	7600 ÷ their 4800 or 12 400	M1dep	oe
	12 400 and No	A1	
	Alternative method 4		
	12 500 – 7600 or 4900	M1	oe
	their 4900 ÷ (12 – 8) or 1225	M1dep	oe
	1225 and No	A1	

9 cont	**Alternative method 5**		
	12 500 – 7600 or 4900	M1	oe
	their 4900 ÷ 1200 or 4.1 (or better)	M1dep	oe accept any indication of "more than 4" for 4.1
	4.1 (or better) and (12 – 8 =) 4 and No	A1	their 4 must be months remaining and not 4.1 rounded
	Additional Guidance		
	4 × 1200 = 4800, 7600 + 4800 = 12 600 and Yes Alt3		M1M1depA0
	12 – 8 = 3, 3 × 1200 = 3600, 3600 + 7600 = 11 200 and No Alt3		M1M1depA0
	3 × 1200 = 3600, 12 500 – 3600 = 8900 and No		M0M0depA0
	12 500 – 7600 = 4900, 4900 ÷ 1200 = 4.1 = 4 and No (4 comes from rounding, not the number of months remaining)		M1M1A0
	Further calculations that say how much more he'd need to earn (annually or monthly) must be correct (if given) to score the A1		

Q8. (2022)

Q	Answer	Mark	Comments
7	**Alternative method 1 – working in £**		
	Any correct conversion from pence to pounds	B1	may be seen at any stage
	$0.49 \times \frac{400}{100}$ or 0.49×4 or $0.14 \times \frac{250}{100}$ or 0.14×2.5	M1	
	1.96 or 0.35	A1	
	2.31	A1	
	Alternative method 2 – working in pence		
	$49 \times \frac{400}{100}$ or 49×4 or $14 \times \frac{250}{100}$ or 14×2.5	M1	
	196 or 35	A1	
	231	A1	
	2.31	B1ft	ft their 231 correctly converted to £
	Additional Guidance		
	Reward correct work seen amongst multiple attempts Use the scheme that gives the better mark		
	Condone p after their final answer eg £2.31p		

Q9. (2022)

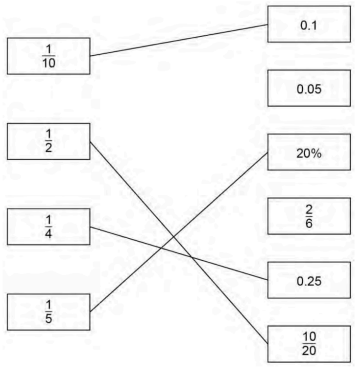
(A)

Q	Answer	Mark	Comments
11(a)	12.2(0) − 8.65 or answer with 55p or 355	M1	oe
	3.55	A1	accept 355p SC1 6.85 or 685p (Company B used)
	Additional Guidance		
	Answer with 55p eg 4.55 or 455p eg 455		M1A0 M0A0
	Condone £3.55p		M1A1

(B)

Q	Answer	Mark	Comments
11(b)	7.25 × 12 or 725 × 12	M1	oe eg 7 × 12 + 0.25 × 12 accept repeated addition of twelve 7(.)25s
	Correct vertical method of long multiplication with at least one of 1450 and 7250 correct or Correct set up of grid method with at least three products correct or Correct set up of Gelosia method with at least three products correct or 10 × 725 = 7250 and 2 × 725 = 1450 attempted with at least one correct or 12 × 700 = 8400 and 12 × 20 = 240 and 12 × 5 = 60 attempted with at least one correct	M1dep	oe allow a placeholder space to be present instead of a physical zero in vertical method
	87(.00)	A1	SC2 103.8(0) or 146.4(0) or 169.2(0) or 190.8(0) or 256.2(0) or 250.2(0) or 315.6(0) SC1 8.65 × 12 or 12.2(0) × 12 or 14.1(0) × 12 or 15.9(0) × 12 or 21.35 × 12 or 20.85 × 12 or 26.3(0) × 12
	Additional Guidance		
	Condone 87.0		M2A1
	Accept answers in pence		
	Condone p after their final answer eg £87.00p		
	Method of repeated addition must have no more than one error. If broken down into groups, the one error made may be seen multiple times		

Q10. (2023)

Q	Answer	Mark	Comments
9	All 3 correct matches	B3	B1 for each correct match
	Additional Guidance		
	Matching to more than one box on the right is choice for that match		
			B3

Q11. (2024)

Q	Answer	Mark	Comments
8	9 × 25 or 225	M1	oe in pounds
	1000 – their 225 or 775	M1	oe in pounds their 225 must be less than 1000 775 implies M1M1
	their 775 ÷ 60 or 12.(9…) or method to get to within one multiple of 60 for their 775 or 720 or 780	M1	oe in pounds their 775 must be less than 1000 and bigger than 60 allow one error in any build-up method 775 ÷ 60 implies M1M1M1
	12 with no errors in working	A1	
	Additional Guidance		
	Allow mixed units for method marks		
	For build-up or build-down allow one error		
	eg1 1000 – 250 = 750, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600, 660, 720 answer 12		M0M1M1A0
	eg2 9 × 25 = 125, 1000 – 125 = 885, 60, 120, 180, 240, 300, 360, 420, 480, 540, 600, 660, 720, 760, 820, 880 answer 14		M1M1M1A0
	eg3 9 × 25 = 225, 1000 – 225 = 775, 60, 120, 180, 240, 300, 360, 420, 480, 520, 580, 640, 700, 760 answer 13		M1M1M1A0
	eg4 9 × 25 = 225, 1000 – 225 = 775, 715, 655, 595, 535, 475, 415, 375, 315, 255, 195, 135, 75, 15 answer 13		M1M1M1A0
	eg5 9 × 25 = 250, 10 × 60 = 600, 2.50 + 600 = 8.50, 9.10, 9.70 answer 12 (the 750 is implied)		M1M1M1A0

Q12. (2024)

14 Here is a multiplication table.

×	**61**	**63**	**65**	**67**
61	3721	3843	3965	4087
63	3843	3969	4095	4221
65	3965	4095	4225	4355
67	4087	4221	4355	4489

Use the table to answer the following questions.

(A)

Q	Answer	Mark	Comments
14(a)	61	B1	

(B)

Q	Answer	Mark	Comments
14(b)	40.87	B1	

(C)

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