Q1. (2018)

13	**Alternative method 1**		
	Any correct factorisation of the numerator or the denominator	M1	eg $8(x^2 - 1)$ or $4(x + 1)$ or $2(4x^2 - 4)$ or $2(2x + 2)$ or $4(2x^2 - 2)$ or $(4x + 4)(2x - 2)$ or $(4x - 4)(2x + 2)$ or $(8x + 8)(x - 1)$ or $(8x - 8)(x + 1)$ or $-2(-4x^2 + 4)$ does not need to be seen in a fraction may be implied eg $\frac{2x^2-2}{x+1}$ or $\frac{4x^2-4}{2x+2}$
	Correct fraction with a common algebraic factor in the numerator and the denominator	A1	eg $\frac{8(x+1)(x-1)}{4(x+1)}$ or $\frac{2(2x+2)(2x-2)}{2(2x+2)}$ or $\frac{2(x+1)(x-1)}{(x+1)}$ or $\frac{4(x+1)(2x-2)}{4(x+1)}$ or $\frac{(4x+4)(2x-2)}{4x+4}$
	$2x - 2$ or $a = 2$ and $b = -2$ with M1A1 scored	A1	

13 cont	**Alternative method 2**		
	$4ax^2 + 4ax + 4bx + 4b$	M1	oe expands $(ax + b)(4x + 4)$ to 4 terms with at least 3 terms correct
	Any 2 of $4a = 8$ $4b = -8$ $4a + 4b = 0$	A1	
	$a = 2$ and $b = -2$ and shows that third equation is satisfied with M1A1 scored	A1	
	Additional Guidance		
	M1 is implied by the first A1 eg $\frac{8(x+1)(x-1)}{4(x+1)}$		M1A1
	$1(8x^2 - 8)$ or $-1(8 - 8x^2)$ etc		M0
	$2x - 2$ without M1A1 scored		M0A0A0
	M1A1 scored and $2x - 2$ followed by attempt to solve $2x - 2 = 0$		M1A1A1
	M1A1 scored and $2x - 2$ followed by $2(x - 1)$		M1A1A1
	M1A1 scored followed by $2(x - 1)$ but $2x - 2$ not seen		M1A1A0

Q2. (2020)

Q	Answer	Mark	Comments
19	$4a+2b$ and $10a+5b$	M1	
	$2(2a+b)$ or $5(2a+b)$	M1	
	$\frac{2(2a+b)}{5(2a+b)}$ and $\frac{2}{5}$ or $\frac{2(2a+b)}{5(2a+b)}$ and 0.4	A1	
	Additional Guidance		
	$\frac{2}{5}$ with no working or only from substitution of values	M0M0A0	
	Ignore substitution of values eg $\frac{2(2a+b)}{5(2a+b)}=\frac{2}{5}$ followed by substitution of values	M1M1A1	
	$\frac{4a+2b}{10a+4b}=\frac{2}{5}$	M1M0A0	
	$2b+4a$ and $5b+10a$ are equivalent to $4a+2b$ and $10a+5b$ etc		

Q3. (2022)

Q	Answer	Mark	Comments
25	$x=2y+5$ or $x-5=2y$ or $y-5=2x$ or $\frac{y-5}{2}$	M1	oe eg $x=2f^{-1}+5$ or $f(x)-5=2x$
	$\frac{x-5}{2}$	A1	oe eg $\frac{x}{2}-\frac{5}{2}$ may be implied eg by $12f^{-1}(x)=6(x-5)$ implied by $\frac{y-5}{2}$ if $\frac{x-5}{2}$ used in subsequent working
	Correctly expands $3(2x+5)-12\times$ their $\frac{x-5}{2}$ to a linear expression	M1	$6x+15-6x+30$ if M1A1 their $\frac{x-5}{2}$ must be a function of x their $\frac{x-5}{2}$ cannot be $2x+5$ implied by a correct linear expression or value for $3(2x+5)-12\times$ their $\frac{x-5}{2}$
	$\frac{x-5}{2}$ and 45	A1	
	Additional Guidance		
	45 with no working	Zero	
	45 from wrong working does not score 4 marks – mark the working seen		
	First A1 Condone $y=\frac{x-5}{2}$ or $f=\frac{x-5}{2}$ or $f(x)=\frac{x-5}{2}$ or $x=\frac{x-5}{2}$		
	For $6x+15-6x+30$ allow $\frac{12x+30-12x+60}{2}$ but not $6x+15-\frac{12x-60}{2}$		
	$x=2y+5$ $\frac{x+5}{2}$	M1A0	
	$6x+15-\frac{12x}{2}-\frac{60}{2}$ (implied by –15)	M1A0	
	$-2x-5$	M0A0	
	$6x+15+24x+60$ (implied by $30x+75$)	M1A0	