Question	Answer	Marks	AO Element	Notes	Guidance
1(a)	0.25 oe and 1	2		**B1** for each	
1(b)	Correct curve	4		**B3FT** for 6 or 7 correct plots or **B2FT** for 4 or 5 correct plots or **B1FT** for 2 or 3 correct plots	
1(c)	2.3	1		Correct or **FT** where $y =$ 5 on *their* graph	
1(d)	$y = 3x - 1$ oe 3 term equation	3		**B2** for $3x - 1$ or $y = 3x\,[+c]$ oe or for $m = 3$ and $c = -1$ or **M1** for [gradient =] $\dfrac{8 - 2}{3 - 1}$ oe soi by *3x* **and M1** for substitution of (1, 2) or (3,8) into *their* $y = mx + c$	
1(e)	−1.7 to −1.5 and 2	2		**B1** for either or **M1** for $y = x + 2$ seen or drawn	
2(a)	0 −0.17 2.4	3		**B1** for each	

Question	Answer	Marks	AO Element	Notes	Guidance
2(b)	Fully correct smooth curve	4		**B3FT** for 9 or 10 correct points or **B2FT** for 7 or 8 correct points or **B1FT** for 5 or 6 correct points	
2(c)	$x \leqslant 0.17$ to 0.25 and $x \geqslant 2.25$ to 2.3	3		**B2** for strict inequalities or one correct or **B1** for 0.17 to 0.25 and 2.25 to 2.3 seen	
2(d)(i)	$y = 4 - x$ oe final answer	2		**B1** for $4 - x$ or $y = k - x$ or $y = 4 + kx$ oe	
2(d)(ii)	**B1** for correct ruled line **B1** for 0.125 to 0.2 **B1** for 2.15 to 2.2	3		**FT** if in form $y = mx + c$ oe $(m, c \neq 0)$	
3(a)	39, 0, –9	3		**B1** for each	
3(b)	Correct smooth curve	4		**B3FT** for 8 or 7 correct plots **B2FT** for 5 or 6 correct plots **B1FT** for 3 or 4 correct plots	

Question	Answer	Marks	AO Element	Notes	Guidance
3(c)	(j, k) where $4.4 < j < 6$ and $-28 < k < -24$	1			
4(a)	$x = 0$	1			
4(b)	**B1** for tangent ruled at $x = 0.5$ **B2** for -9 to -6.5	3		No daylight between tangent and curve at point of contact **dep** on ruled tangent or close attempt at tangent at $x = 0.5$ **M1** for rise/run also dep on tangent or close attempt at tangent at $x = 0.5$	
4(c)(i)	0 2.4 or better 4	3		**B1** for each	
4(c)(ii)	Correct smooth curve	4		**B3 FT** for 6 or 7 correct plots or **B2 FT** for 4 or 5 correct plots or **B1 FT** for 2 or 3 correct plots **FT** *their* table	
4(d)	$x^3 + 3x + 4 = 10 - 8x^2$ and correctly completed	1			

Question	Answer	Marks	AO Element	Notes	Guidance
4(e)	line $y = -2x + 2$ drawn and −0.45 to −0.35 nfww	3		**B2** for ruled $y = -2x + 2$ or **B1** for $-2x + 2$ seen or for line $y = -2x + c$ drawn or for $y = cx + 2$ (c ≠ 0) drawn and **B1** for −0.45 to − 0.35 nfww	
5(a)	−1 … −2 … −6 … 6 … 2 … 1	3		**B2** for 4 or 5 correct or **B1** for 2 or 3 correct	
5(b)	correct smooth curves	4		**B3FT** for 9 or 10 points plotted correctly **B2FT** for 7 or 8 points plotted correctly **B1FT** for 5 or 6 points plotted correctly **FT** *their* table	
5(c)	correct continuous ruled line	1			
5(d)	−1.2 oe	1		or **FT** *their* line and *their* graph	
6(a)	1, −5, −3, 1, 7	3		**B2** for 4 correct **B1** for 3 correct	

Question	Answer	Marks	AO Element	Notes	Guidance
6(b)	Correct smooth curve	4		**B3FT** for 8 or 7 correct plots or **B2FT** for 5 or 6 correct plots or **B1FT** for 3 or 4 correct plots	
6(c)	$(0.5, h)$ where $-5.5 \leq h < -5$	1			
6(d)(i)	Correct line of symmetry drawn	1			
6(d)(ii)	$x = 0.5$ oe	1			
					[Total: 69]