Question	Answer	Marks	Partial Marks
4	$x + y = 9$	**B1**	
	$(x + 1)^2 = y + 2$	**B1**	
	$x + (x + 1)^2 - 2 = 9$ or $(10 - y)^2 = y + 2$	**M1**	Replace y or x. Allow unsimplified using *their* three term expressions both containing x and y terms. Condone one sign or arithmetic error. Result must be a quadratic function.
	$x^2 + 3x - 10$ (= 0) or $y^2 - 21y + 98$ (= 0)	**A1**	Correct 3 term quadratic
	$x = -5$ and $x = 2$ or $y = 7$ and $y = 14$ or $(x + 5)(x - 2)$ or $(y - 7)(y - 14)$	**M1**	**Dep** on correct method to solve their quadratic
	$x = 2$ and $y = 7$ **only**	**A1**	Reject $x = -5$, $y = 14$ as log –4 is not appropriate
5(a)	$x = 1 \rightarrow y = 8$	**B1**	
	$\frac{dy}{dx} = 3x^2 - 12x + 3$	**M1**	Attempt to differentiate. Powers reduced by 1 in all four terms.
	$x = 1 \rightarrow \frac{dy}{dx} = -6$	**A1**	
	$\frac{y-8}{x-1} = -6 \rightarrow y = -6x + 14$	**A1**	Either form. isw
5(b)	$x^3 - 6x^2 + 9x - 4 = 0$ $(x - 1)(x^2 - 5x + 4) = 0$ or $(x - 4)(x^2 - 2x + 1) = 0$	**2**	**M1** for equating *their* tangent to curve and simplifying to 4 term cubic. **M1Dep** for finding a factor or stating that $(x - 1)$ is a factor or makes at least 3 attempts to find a factor.
	$(x - 1)(x - 1)(x - 4) = 0$	**2**	**A1** for $(x - 1)$ or $x = 1$ can be implied. nfww **A1** for $(x - 4)$ or $x = 4$ not repeated. nfww
	$x = 4 \rightarrow y = -10$ only	**A1**	nfww