Question	Answer	Marks	Guidance
(a)	Use product rule to differentiate $e^{2x}y$	**M1**	
	Obtain $2e^{2x}y + e^{2x}\frac{dy}{dx}$	**A1**	
	Obtain $2e^{2x}y + e^{2x}\frac{dy}{dx} - e^{y}\frac{dy}{dx} = 0$ and rearrange to confirm given result	**A1**	AG – necessary detail needed
		3	
(b)	Consider $e^{2x}y = 0$ and either state $e^{2x} \neq 0$ or substitute $y = 0$ in equation of curve	**M1**	
	Complete argument with $e^{2x} \neq 0$ or $e^{2x} > 0$ and substitution to show y cannot be zero	**A1**	AG – necessary detail needed
		2	
(c)	State or imply $e^{y} - e^{2x} = 0$ and hence $y = 2x$	**B1**	
	Substitute for y in equation of curve and attempt rearrangement as far as $e^{2x} = ...$	**M1**	
	Use relevant logarithm properties	**M1**	
	Confirm equation $x = \ln 10 - \frac{1}{2}\ln(2x-1)$	**A1**	AG – necessary detail needed
		4	

Question	Answer	Marks	Guidance
(d)	Use iteration process correctly at least once	**M1**	
	Obtain final answer 1.82	**A1**	Answer required to exactly 3 sf
	Show sufficient iterations to 5 sf to justify answer or show sign change in interval [1.815, 1.825]	**A1**	
		3	