Question	Answer	Marks	Guidance
(a)	Integrate to obtain form $k\mathrm{e}^{2x-1}$	**M1**	any constant k, $k \neq 6$
	Obtain correct $\frac{3}{2}\mathrm{e}^{2x-1}$	**A1**	
	Apply limits correctly to $k\mathrm{e}^{2x-1}$ and equate to 120	**M1**	Allow one slip
	Rearrange as far as $a = ...$	**M1**	
	Obtain $a = \frac{1}{2}\ln(80 + \mathrm{e}^{2a-1}) - \frac{1}{2}$	**A1**	AG – necessary detail needed
		5	
(b)	Use iteration process correctly at least once	**M1**	
	Obtain final answer 1.76	**A1**	Answer required to exactly 3 s.f.
	Show sufficient iterations to 5 s.f. to justify answer or show sign change in the interval $[1.755,\ 1.765]$	**A1**	
		3	