

Question	Answer	Marks	Guidance
(a)	Integrate to obtain form $k e^{2x-1}$	M1	any constant k , $k \neq 6$
	Obtain correct $\frac{3}{2} e^{2x-1}$	A1	
	Apply limits correctly to $k e^{2x-1}$ and equate to 120	M1	Allow one slip
	Rearrange as far as $a = \dots$	M1	
	Obtain $a = \frac{1}{2} \ln(80 + e^{2a-1}) - \frac{1}{2}$	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	

