Question	Answer	Marks	Guidance
(a)	Use y-values $[\ln 1],\ \ln 2,\ \ln 3,\ \ln 4$	**B1**	but not *their* decimal equivalents
	Use correct formula, or equivalent, with $h = 1$	**M1**	allow with decimal equivalents
	Use both relevant logarithm properties correctly	**M1**	
	Obtain $\frac{1}{2}[\ln 1 + 2\ln 2 + 2\ln 3 + \ln 4]$ and hence $\ln 12$	**A1**	AG – necessary detail needed
		4	

Question	Answer	Marks	Guidance
(b)	Sketch correct graph of $y = \ln x$ for at least $y \geqslant 0$	***B1**	
	Indicate that top of each trapezium is below curve or clear equivalent	**DB1**	but B0 if only one chord shown from (1, 0) to (4, ln 4) allow 'concave down'
		2	