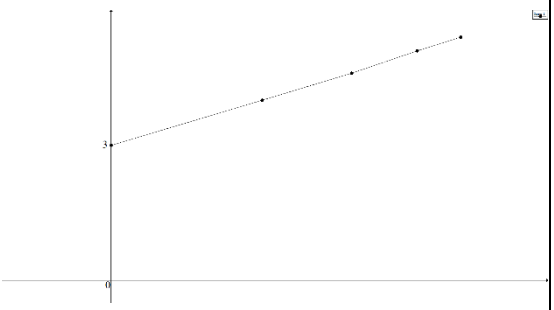
Question	Answer	Marks	Guidance
4(a)	$\ln y = \ln A + b\ln x$ soi	**B1**	May be implied by parts **(b)** and **(c)**
	<table><tr><td>$\ln x$</td><td>0</td><td>0.69</td><td>1.1</td><td>1.4</td><td>1.6</td></tr><tr><td>$\ln y$</td><td>3</td><td>4</td><td>4.6</td><td>5.1</td><td>5.4</td></tr></table>	**2**	**M1** for attempt to plot a correct graph, allow one point error on the graph. **A1** All points correct on the graph.
4(b)	Vertical intercept = $\ln A$ $(=3)$	**M1**	**Dep** on a straight line graph
	20	**A1**	
	Gradient = b	**M1**	**Dep** on a straight line graph
	$b = 1.5$ (allow 1.4 to 1.6)	**A1**	
4(c)	Reading off graph for $\ln x = 1.25$ to obtain $\ln y$ or use of *their* equation	**M1**	**Dep** on a straight line graph
	$120 \leqslant y \leqslant 150$	**A1**	
5(a)(i)	5040	**B1**	
5(a)(ii)	2520	**B1**	
5(a)(iii)	There are 504 codes less than 1000 $5040 - 504 = 4536$	**2**	**M1** for *their* **(i)** -504 or $9\times$(a product of 3 relevant numbers)
5(b)	With family: 462	**B1**	
	Without family: 55	**B1**	
	Total: 517	**B1**	
6(a)	$\lg 50x^3$	**3**	**B1** for $\lg x^3$ or $\lg 2$ or $\lg 100$ **B1** for $\lg \frac{x^3}{2}$