

Question			Answer	Marks	AO	Guidance
11	(a)		Gradient $n = \frac{0.376 - 0.254}{0.146 - (-0.097)} = 0.50$ So $k = 10^{0.303} = 2.0$ (2sf)	M1 A1 M1 A1	1.1a 1.1 1.1a 1.1b	Allow www. Do not allow for reciprocal of gradient Allow for 0.5 or 0.502...seen Finding the intercept and attempting to find k Maybe implied by 2 or 2.0 etc Must be 2 significant figures. Allow embedded in an equation if not given explicitly
			Alternative method $0.254 = \log k - 0.097n$ $0.376 = \log k + 0.146n$ $n = 0.50$ So $k = 10^{0.303} = 2.0$ (2sf)	M1 A1 M1 A1 [4]	 1.1a 1.1b	Setting up a pair of simultaneous equations and attempting to solve. Do not allow for $\log T$ and $\log l$ interchanged Allow for 0.5 or 0.502...seen Finding the intercept and attempting to find k Maybe implied by 2 or 2.0 etc Must be 2 significant figures. Allow embedded in an equation if not given explicitly
11	(b)		$\log_{10} T = \log_{10} k + \log_{10} l^n$ $= \log_{10} kl^n$ So $T = kl^n = 2.0l^{0.50}$	 M1 A1 [2]	 1.1a 1.1	Uses laws of logs for powers and products FT their n and positive value for k