Question	Answer	Marks	Partial Marks
4	$\frac{dy}{dx} = -\sec^2(1-x)$ oe	**B2**	**must be seen** **B1** for $\frac{dy}{dx} = k\sec^2(1-x)$ oe, $k \neq -1$ or **SC1** for $\frac{dy}{dx} = -\sec^2 1-x$ or $\frac{dy}{dx} = -\sec^2(1-x)+c$
	Solves $3 = 2 + \tan(1-x)$ as far as $1 - x = \tan^{-1}1$	**M1**	
	$1-x = \frac{\pi}{4}$ isw or 0.7853[98…] $x = 1-\frac{\pi}{4}$ isw or 0.2146[01…]	**A1**	
	Correct use of chain rule **and** correctly writes in terms of cosine or tangent: $\frac{their(-1)}{\cos^2\left(their\frac{\pi}{4}\right)} \times 0.04$ oe, soi or $their(-1)\left\{1+\tan^2\left(their\frac{\pi}{4}\right)\right\} \times 0.04$ oe soi	**M1**	**dep** on at least **B1** and an attempt to solve $3 = 2 + \tan(1-x)$
	−0.08 oe, nfww	**A1**	**dep** on all previous marks awarded
5(a)	$\lg P = \lg A + T\lg b$ oe nfww **and** correct comparison with $y = mx + c$ soi	**B2**	Must be seen and not from wrong working **B1** for $\lg P = \lg A + T\lg b$ isw, nfww
5(b)	$A = 10^6$ oe isw and $b = 10^{\frac{3}{7}}$ oe isw	**4**	**B2** for $A = 10^6$ oe isw **or B1**correct method which could be used to find A e.g. $\lg A = 6$ or $12 = \frac{3}{7}\times 14 + \lg A$ **B2** for $b = 10^{\frac{3}{7}}$ oe isw or **B1**correct method which could be used to find b e.g. $\lg b = \frac{12-6}{14-0}$ oe or $12 = 14\lg b + 6$