Question	Answer	Marks	Partial Marks
1	$\frac{\sin\theta}{\cos\theta}+\frac{\cos\theta}{\sin\theta}$	**M1**	
	$\frac{\sin^2\theta+\cos^2\theta}{\cos\theta\sin\theta}$	**A1**	
	$\frac{1}{\cos\theta\sin\theta}$ oe **and** completion to given answer $\sec\theta\,\text{cosec}\,\theta$	**A1**	
	Alternative		
	$\left[\tan\theta+\frac{1}{\tan\theta}=\right] = \frac{\tan^2+1}{\tan\theta}$	**(M1)**	
	$\frac{\sec^2\theta}{\tan\theta}$	**(A1)**	
	$\frac{\sec^2\theta\cos\theta}{\sin\theta}$ oe **and** completion to given answer $\sec\theta\,\text{cosec}\,\theta$	**(A1)**	
2(a)	$\left[\frac{dy}{dx}=\right]$ $\tan^2x$ nfww	**B2**	**B1** for $\sec^2x - 1$
2(b)	$[\tan x - x]_0^{\frac{\pi}{4}}$	**M1**	
	$1-\frac{\pi}{4}$ or exact equivalent	**A1**	
3(a)	$\left(8^{\frac{1}{x}}\right)^2 - 8^{\frac{1}{x}} - 2\ [=0]$ oe or $\left(2^{\frac{3}{x}}\right)^2 - 2^{\frac{3}{x}} - 2\ [=0]$ oe	**B1**	
	$(8^{\frac{1}{x}} - 2)(8^{\frac{1}{x}} + 1) = 0$ oe or $(2^{\frac{3}{x}} - 2)(2^{\frac{3}{x}} + 1) = 0$ oe	**M1**	**FT** *their* 3-term quadratic in $8^{\frac{1}{x}}$ oe
	$8^{\frac{1}{x}} = 2\ \left[8^{\frac{1}{x}} = -1\right]$ or $2^{\frac{3}{x}} = 2\ \left[2^{\frac{3}{x}} = -1\right]$ oe	**A1**	
	$x = 3$ nfww	**A1**	

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