Question			Answer	Marks	AO	Guidance
10	(a)		$1-\frac{3}{4}\sin^2 2\theta = 1-\frac{3}{4}(2\sin\theta\cos\theta)^2$ $= 1-3\sin^2\theta\cos^2\theta$	M1	3.1a	Use of double angle formula Allow 1 error
			$\left(\sin^2\theta+\cos^2\theta\right)^3 = \sin^6\theta+\cos^6\theta+3\sin^4\theta\cos^2\theta+3\sin^2\theta\cos^4\theta$	M1	3.1a	Use of given result with sin and cos Both sides seen but might not be equated
			$\sin^6\theta+\cos^6\theta = 1-\left(3\sin^4\theta\cos^2\theta+3\sin^2\theta\cos^4\theta\right)$	M1	2.2a	Use of $\sin^2\theta+\cos^2\theta=1$
			$\sin^6\theta+\cos^6\theta = 1-3\sin^2\theta\cos^2\theta\left(\sin^2\theta+\cos^2\theta\right)$ $= 1-3\sin^2\theta\cos^2\theta$ So LHS = RHS as required	E1	2.1	Convincing completion
				[4]		
10	(b)		$1-\frac{3}{4}\sin^2 2\theta$ has min value when $\sin^2 2\theta = 1$ oe	M1	1.1	
			Min value is $\frac{1}{4}$	A1	2.2a	$\frac{1}{4}$ unsupported does not score
				[2]		