

6			$\text{LHS} \equiv \sqrt{2} (\cos 2\theta \cos 45^\circ - \sin 2\theta \sin 45^\circ)$ $\equiv \sqrt{2} \times \frac{1}{\sqrt{2}} (\cos 2\theta - \sin 2\theta) \text{ or } (\cos 2\theta - \sin 2\theta)$ $\equiv \cos^2 \theta - 2\sin \theta \cos \theta - \sin^2 \theta$	M1	3.1a	correct use of $\cos(A + B)$ formula
				B1	1.1	$\cos 45^\circ$ or $\sin 45^\circ = \frac{1}{\sqrt{2}}$ seen or implied
				A1	2.2a	correctly obtained – use of double angle formulae clear
			Alternative method $\text{RHS} \equiv \cos 2\theta - \sin 2\theta$ $\equiv \sqrt{2} \left(\frac{1}{\sqrt{2}} \cos 2\theta - \frac{1}{\sqrt{2}} \sin 2\theta \right)$ $\equiv \sqrt{2} (\cos 2\theta \cos 45^\circ - \sin 2\theta \sin 45^\circ)$ $\equiv \sqrt{2} \cos(2\theta + 45^\circ)$	M1		or $R \cos \alpha = 1$, $R \sin \alpha = 1$, $R^2 = 2$, $\tan \alpha = 1$, $\alpha = 45^\circ$
				M1 A1		
				[3]		