Q	Marking instructions	AO	Marks	Typical solution
6	Expands brackets, at least one completely correct	1.1a	M1	$4\sin^2\theta+12\sin\theta\cos\theta+9\cos^2\theta$
	Expands both brackets correctly	1.1b	A1	$+36\sin^2\theta-12\sin\theta\cos\theta+\cos^2\theta=30$
	Uses $\sin^2\theta+\cos^2\theta=1$ correctly to eliminate $\cos^2\theta$ or $\sin^2\theta$ from their equation PI by $30\sin^2\theta+10=30$	3.1a	M1	$40\sin^2\theta+10\cos^2\theta=30$ $40\sin^2\theta+10\left(1-\sin^2\theta\right)=30$ $30\sin^2\theta+10=30$
	Obtains an equation of the form $\sin^2\theta=k$ or $\cos^2\theta=k$ where $0<k<1$ PI by $\sin\theta=\sqrt{k}$ or $\sin\theta=-\sqrt{k}$	1.1a	M1	$\sin^2\theta=\frac{2}{3}$ $\sin\theta=\pm\frac{\sqrt{6}}{3}$
	Obtains $\sin\theta=\pm\sqrt{\frac{2}{3}}$	1.1b	A1	since θ is obtuse $\sin\theta=\frac{\sqrt{6}}{3}$
	Completes reasoned argument to obtain $\sin\theta=\sqrt{\frac{2}{3}}$ and explains why $\sin\theta=\sqrt{\frac{2}{3}}$ Must come from $\sin\theta=\pm\sqrt{\frac{2}{3}}$ FT their $\sin^2\theta=k$ where $0<k<1$	2.4	R1F	
	Question 6 Total		**6**	