4			When θ is small $1+\cos\theta-3\cos^2\theta$ $\approx 1+\left(1-\frac{1}{2}\theta^2\right)-3\left(1-\frac{1}{2}\theta^2\right)^2$	**M1**	**1.1a**	Attempt to use $\cos\theta \approx 1-\frac{1}{2}\theta^2$ or $=1+\left(1-\frac{1}{2}\theta^2+...\right)$ $-3\left(1-\frac{1}{2}\theta^2+...\right)^2$	**OR** **M1** Attempt to use $\cos\theta \approx 1-\frac{1}{2}\theta^2$
			$=1+\left(1-\frac{1}{2}\theta^2\right)-3\left(1-\theta^2+\frac{1}{4}\theta^4\right)$ $=1+1-\frac{1}{2}\theta^2-3+3\theta^2-\frac{3}{4}\theta^4$	**M1**	**1.1**	Multiply out	**M1** use trigonometric identity $1+\cos\theta-3\cos^2\theta$ $=1+\cos\theta-\frac{3}{2}-\frac{3}{2}\cos 2\theta$
			Since θ is small, we can neglect the higher order terms	**E1**	**2.5**	For explanation of loss of θ^4 term and consistent use of notation throughout (Working need not be fully correct)	**E1** For showing clearly which identity has been used and consistent use of notation throughout
			so $1+\cos\theta-3\cos^2\theta \approx -1+\frac{5}{2}\theta^2$ as required	**E1**	**2.1**	AG Clearly obtained www Condone θ^4 term missing without explanation and inconsistent notation	**E1** AG Clearly obtained www Condone inconsistent notation
				[4]			