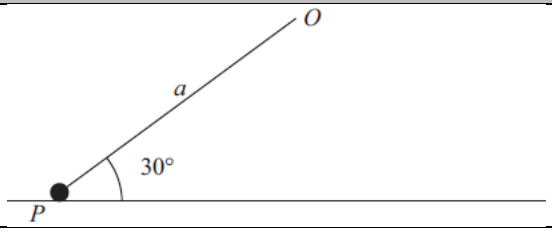
Question Number	Scheme	Marks
		
2.	Vertical equilibirum	M1
	$R+T\sin 30^o = mg$	A1
	N2L horizontally $T\cos 30° = mr\omega^2$	M1
	$T\cos 30^o = ma\cos 30^o\left(\frac{g}{2a}\right)$	A1 A1
	Solve for R	dM1
	$\left(R=\right)\frac{3mg}{4}$	A1
		(7)
Notes for question 2		
M1	Resolve vertically to form a dimensionally correct equation with all required terms present and no extras. Condone ± sign errors and sin/cos confusion on the T.	
A1	Correct unsimplified equation	
M1	Use N2L to form a dimensionally correct horizontal equation of motion. All required terms present with no extras. Accept any form of circular acceleration $r\omega^2$, $\frac{v^2}{r}$. Accept correct consistent omission of $\cos 30°$. Accept 'ma' if acceleration is replaced correctly with a circular form in subsequent working. Condone sin/cos confusion. An incorrect expression for the radius is marked as an accuracy error and not a method error.	
A1	Correct equation in T, m, g (and a) with at most one error.	
A1	Correct equation in T, m, g (and a)	
dM1	Dependent on both previous M marks. Solve a dimensionally correct equation to find R in terms of m and g only.	
A1	Correct answer, accept $0.75mg$. Must be in terms of m and g,	