Question Number	Scheme	Marks
2	Any correct sin or cos ratio.	B1
	$T\cos 60° + N = mg$	M1A1
	$T\sin 60° = mr\omega^2 = m\omega^2 \times 2l\sin 60°$	M1A1
	$\frac{1}{2}T + N = mg \quad \frac{1}{2}T = ml\omega^2$	
	$\Rightarrow\ ml\omega^2 + N = mg$	DM1
	$N \geq 0 \Rightarrow l\omega^2 \leq g$	DM1
	$\boldsymbol{\omega} \leq \sqrt{\frac{g}{l}}$ *	A1 * (8) **[8]**

B1	May be seen explicitly or used in an equation.
M1	Attempt at vertical resolution, 3 terms needed.
A1	Correct equation.
M1	Attempt an equation for NL2 along the radius, acceleration in either form but not $'a'$. May have r and v in the equation.
A1	Fully correct equation with the acceleration in $r\omega^2$ form and radius in terms of l.
DM1	Eliminate T Depends on both M marks above. Must see an equation still involving N.
DM1	Use $N \geq 0$ Depends on all 3 M marks above. Must see correct inequality stated, not $N = 0$ or $N > 0$.
A1*	Reach the **given** result from fully correct working.

ALT	For solutions that do not use vertical equilibrium but go straight to a vertical inequality.
B1	As above.
M1 A1 DM1	Forming a correct inequality $T\cos 60 \leq mg$
M1 A1	Attempt NL2 as the main mark scheme.
DM1	Eliminate T Depends on M marks above.
A1*	Reach the given result from fully correct working.