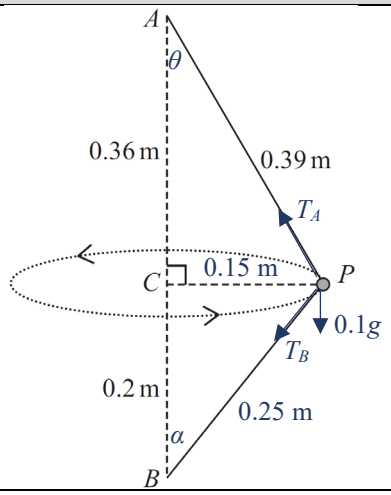
Question Number	Answer	Mark	Additional Guidance
3a			
	Resolve vertically	M1	Dimensionally correct. Condone sine / cosine confusion but angles and tensions must be different (allow same letter only if recovered).
	$T_A \cos\theta = 0.1g + T_B \cos\alpha$ $\left(\frac{12}{13}T_A = 0.1g + \frac{4}{5}T_B\right)$	A1	Correct unsimplified equation.
	Circular motion	M1	Dimensionally correct. Condone sine / cosine confusion but angles and tensions must be different (allow same letter only if recovered).
	$0.1r\omega^2 = T_A \sin\theta + T_B \sin\alpha$ $\left(0.675 = \frac{5}{13}T_A + \frac{3}{5}T_B\right)$	A1 A1	Unsimplified equation with at most one error Correct unsimplified equation
	Substitute for trig and ω and solve for T_B	DM1	Dependent on the two previous M marks
	T_B = tension = 0.29 or 0.286 (N)	A1	2 sf or 3 sf only (only penalise over-accurate "correct" answer once per whole question)
		(7)	
3b	Resolve horizontally **and** vertically	M1	Dimensionally correct. Condone sine / cosine confusion. Must be using $T_B = 0$ but allow inequality in working.
	$T_A \cos\theta = 0.1g$	A1	Correct unsimplified equation

	$0.1\times 0.15\omega^2 = T_A \sin\theta$	A1	Correct unsimplified equation
	$\omega = 5.2$ or 5.22	A1	2 sf or 3 sf only (only penalise over-accurate "correct" answer once per whole question)
		(4)	
		(11)	