

Question		Answer	Marks	AO	Guidance	
10	(a)	$R(\uparrow \text{object}): T = 5g$	B1	1.1	Possibly implied by later working	Allow $T - 5g = 0$
		$R(\rightarrow \text{block}): T \cos 50 = X \cos 20$	M1	3.3	Resolving horizontally to form an equation – correct number of terms (possibly with T replaced with $5g$) – allow sin/cos mix but must be using correct angles	Must be components of both T and X
		$X = 33.5$	A1	1.1	awrt 33.5 – condone including of ‘N’	33.51797...
			[3]			
10	(b)	$X \sin 20 + 147 + T \sin 50 = mg$	M1	3.3	Resolving vertically to form an equation for the block with the correct number of relevant terms – allow sign errors and sin/cos mix but must be using correct angles	Allow X , T or their value(s) for X and T – relevant means both dimensionally correct (so must be using mg) and that we must see components of T and X but no component of the weight or the 147
		$(‘33.5\dots’) \sin 20 + 147 + 5g \sin 50 = mg$	A1FT	1.1	Correct equation for m FT their value of X only (so not just X)	
		$m = 20$	A1	1.1	Accept either 20 or awrt 20.0; condone inclusion of ‘kg’	www
			[3]			