

Question		Answer	Marks	AOs	Guidance
11	(i)	Component of weight down the plane $4.7g \sin 60^\circ$ Equilibrium equation $T = 4.7g \sin 60^\circ$ $= 39.889\dots$ so $T = 39.9$ to 3 sf	B1 E1 [2]	2.1 3.3	AG Award if seen Must be clear that 39.9 N is the tension and not just component of weight
	(ii)	Resolve perpendicular to the slope N is the normal reaction between plane and block B $N = 4g \cos 25^\circ$ Resolve up the slope $T - F - 4g \sin 25^\circ = 0$ On the point of sliding so $F = \mu N = \mu \times 4g \cos 25^\circ$ $\mu = \frac{4.7g \sin 60^\circ - 4g \sin 25^\circ}{4g \cos 25^\circ} = 0.656 \text{ to 3sf}$	B1 M1 A1 M1 A1 [5]	1.1a 3.3 1.1b 3.1b 1.1b	Need not be evaluated here [≈ 35.5] Allow only sign errors F need not be evaluated here [≈ 23.3] Do not allow for $F \leq \mu N$ unless = used subsequently. FT their values. FT (notice this answer is 0.657 if 39.9 used for T)