Question Number	Scheme	Marks
8(a)	$R(\perp \text{ plane}):$ $R = 0.5g\cos 30^{\circ} + 5\sin 30°$	M1A1A1
	$R = 6.743... = 6.7$ or 6.74 N	A1 (4)
(b)	$R(\parallel \text{ plane}):$ $F = 5\cos 30° - 0.5g\sin 30°$ $(=1.880...)$	M1A1A1
	$\mu = \dfrac{F}{R} = \dfrac{1.880}{6.743},\ = 0.27880... = 0.28$ or 0.279	M1A1 (5)
(c)	NL2: $0.5g\sin 30° - F' = 0.5a$	M1A1
	$R(\perp \text{ plane}):$ $R' = 0.5g\cos 30^{\circ}\ (=4.2435...)$	M1A1
	Use of $F' = \mu R' = 0.2787...\times R'\ (=1.18345...)$ and solve for a	**DM**1
	$a = 2.53...$ m s^{-2}	A1
	$v^2 = 2as = 2\times 2.533 \times 3$	M1
	$v = 3.9$ or 3.90 ms^{-1}	A1 (8) **[17]**
	Notes for qu 8	
8a	M1 for resolution perp to the plane, with usual rules	
	First and second A1 for a correct equation, -1 each error	
	Third A1 for 6.7 or 6.74 (N) must be positive	
8b	First M1 for resolution parallel to the plane, with usual rules	
	First and second A1 for a correct equation, -1 each error	
	Second M1 for *use* of $\mu = \dfrac{F}{R}$	
	Third A1 for 0.28 or 0.279	
8c	**SC: If 5N force is not removed, can score max: M1A0M1A0DM1A0M0A0** with usual rules applying for M marks assuming that 5N force still acting.	
	First M1 for equation of motion parallel to plane, with usual rules	
	First A1 for a correct equation (F' does not need to be substituted and allow if they use the value of F from part (b))	
	Second M1 for resolution perp to the plane, with usual rules	
	Second A1 for a correct equation	
	Third DM1, dependent on both previous M marks, for use of $F' = \mu R'$ and	