Question			Answer	Marks	AO	Guidance	
13	(a)		Resolving vertically to the plane for Particle A $R = mg\cos\alpha = \frac{4}{5}mg$	**B1**	**1.1**	Obtain $\frac{4}{5}mg$	
			Since A is in motion, $F_s = \mu R = \frac{1}{3}\left(\frac{4}{5}\right)mg = \frac{4}{15}mg$	**B1**	**2.2a**	Obtain $\frac{4}{15}mg$	
			Resolving horizontally to the plane for both particles: $T - \frac{13mg}{15} = ma$ $-T + \frac{16mg}{5} = 4ma$	**M1** **A1**	**3.1b** **2.1**	Must obtain two equations in T and a Particle A: Attempt resolution as far as stating $T - F_s - mg\sin\alpha = ma$ Particle B: Attempt resolution as far as stating $-T + 4mg\sin\beta = 4ma$	
				M1	**1.1**	Solve their simultaneous equations to find a in terms of g.	
			$a = \frac{7g}{15}$	**E1** **[6]**	**2.4**	AG Solution must include clear diagrams or explanation for F_s and for horizontal resolutions.	
13	**(b)**		$\frac{7g}{30} = 2\times\frac{7g}{15}\times s$	**M1**	**1.1**	Use $v^2 = 0^2 + 2as$	
			$s = \frac{1}{4}$	**E1** **[2]**	**2.1**	AG Must include sufficient working to justify the given answer from the constant acceleration formula	