

3(a)	Resolve perpendicular to the plane : $R = mg \cos \alpha$		M1	3.4
	$R = \frac{3}{5} mg$		A1	1.1b
			(2)	
3(b)(i)	Use the model to set up equation of motion for A		M1	3.3
	$2mg - \frac{7mg}{5} = 2ma$		A1	1.1b
(ii)	$a = \frac{3g}{10}$		A1	1.1b
			(3)	
3(c)	Use the model to set up equation of motion for B		M1	3.4
	$\frac{7mg}{5} - mg \sin \alpha - F = ma$		A1	1.1b
	$F = \mu R$		B1	1.2
	Solve problem by solving equations for μ		M1	3.1a
	$\mu = \frac{1}{2}$		A1	1.1b
			(5)	
3(d)	The tension would not be constant oe		B1	3.5b
			(1)	

(11 marks)

Notes:

3a	M1	Correct no. of terms and allow sin/cos confusion
	A1	cao
3b (i)	M1	Correct no. of terms, allow sin/cos confusion and sign errors. T does not need to be substituted.
	A1	Correct unsimplified equation
(ii)	A1	cao
3c	M1	Correct no. of terms, allow sin/cos confusion and sign errors T does not need to be substituted.
	A1	Correct equation
	B1	With their R
	M1	Must be a numerical value and have come from the use of two equations of motion
	A1	cao

3d

B1

The inclusion of any incorrect statements scores B0