Question Number	Scheme	Marks
2(a)	**N.B.** Consistent use of extra *g*'s in **two** equations can score the A marks for the equations and could score full marks for part (a). **N.B.** If they assume that the rod is uniform, can only score marks for a vertical resolution. $\mathrm{R}(\uparrow)$: $0.5R_C + R_C = 60 + 12$ (N.B. $R_A = \frac{1}{2}R_C$)	M1A1
	Possible moments equations: $\mathrm{M}(A)$: $60x + (12\times 5) = R_C \times 3$	M1A1
	$\mathrm{M}(B)$: $(2\times R_C) + \left(\frac{1}{2}R_C \times 5\right) = 60(5-x)$	
	$\mathrm{M}(C)$: $(\frac{1}{2}R_C \times 3) + (12\times 2) = 60(3-x)$	
	$\mathrm{M}(G)$: $12(5-x) + \frac{1}{2}R_C x = R_C(3-x)$	
	Eliminate R_C and solve for x (AG)	**DM1**
	$x = 1.4$ m	A1 (6)
(b)	(i) the weight of the parcel acts at B	B1
	(ii) the plank remains straight	B1 (2)
	(or equivalent statements)	**[8]**
	Notes for qu 2	
	N.B. If R and $\frac{1}{2}R$ are reversed, max score is M1A1 (resolution) M1A0 (moments)	
2a	First M1 for first equation, correct no. of terms, dim correct, condone sign errors and allow R and S at this stage and for moments equations allow a different length variable	
	First A1 for a correct resolution in one unknown or moments equation in two unknowns	
	Second M1 for second equation, correct no. of terms, dim correct, condone sign errors and allow R and S at this stage and for moments equations allow a different length variable	
	Second A1 for a correct resolution in one unknown or moments equation in two unknowns	
	Third DM1, dependent on both previous M marks, for eliminating and solving for AG	
	Third A1 for 1.4 (m) oe	
2b (i)	First B1 e.g. mass is concentrated **at *B*** B0 if incorrect extras	
(ii)	Second B1 e.g. the plank doesn't buckle or bend B0 if incorrect extras	