Question Number	Scheme	Marks
5(a)	$M(C),\ Mg\times1.5=12g\times1.75$	M1A1
	$M=14$	A1 (3)
5(b)	A moments equation, with usual rules i.e. dim correct, correct no. of terms, condone sign errors	M1A1
	$(\uparrow),\ T_A+2T_A=12g+15g$ or another Moments equation	M1A1
	Possible moments equations: $M(A),\ 2T_A\times3.5=12g\times1.75+15gx$ $M(B),\ (2T_A\times1.5)+(T_A\times5)=12g\times3.25+15g(5-x)$ $M(C),\ T_A\times3.5=12g\times1.75+15g(3.5-x)$ $M(D),\ 2T_A\times1.75=T_A\times1.75+15g(x-1.75)$ $M(G),\ T_Ax=2T_A(3.5-x)+12g(x-1.75)$ **N.B.** These equations could be in terms of T_C and/or in terms of their own unknown length (e.g. y) where y is clearly defined in terms of x.	
	$x=2.8$	A1 (5)
		(8)
	Notes on qu 5	
5(a)	M1 for a complete method to obtain an equation <u>in M only</u>. **N.B.** they may use 2 equations in T_C and M and then eliminate T_C to give an equation <u>in M only</u>. Possible equations: $(\uparrow),\ T_C=12g+Mg$ M(A), $12g\times1.75+5Mg=3.5T_C$ M(B), $12g\times3.25=1.5T_C$ M(G), $T_C\times1.75=3.25Mg$ **N.B.** M0 if they never use $T_A=0$	
	First A1 for a correct equation <u>in M only</u>	
	Second A1 for $M=14$	
	N.B. If g's are <u>consistently</u> omitted in <u>all</u> equations used in 5(a), full marks can be scored.	
5(b)	First M1 for a moments equation with the usual rules, in x and at most 2 further unknowns	
	First A1 for a correct equation in x and one other unknown	
	Second M1 for a vertical resolution in 2 unknowns or a second moments equation in x and at most 2 further unknowns	
	Second A1 for a correct resolution in one unknown or for a correct moments equation in x and the same one other unknown	
	Third A1 for $x=2.8$ **N.B.** If g's are <u>consistently</u> omitted in <u>both</u> equations in 5(b), full marks can be scored.	