Question Number	Scheme	Marks
2(a)	$M(D), \dfrac{3a}{5} Xg = \dfrac{2a}{5} Mg$ Other possible equations: $(\uparrow) T_D = Mg + Xg$ $M(A), Mga + Xg\,2a = T_D \dfrac{7a}{5}$ $M(B), Mga = T_D \dfrac{3a}{5}$ T_D <u>would then need to be eliminated</u> $M(C), Mg\dfrac{3a}{5} + Xg\dfrac{8a}{5} = T_D a$ $M(G), Xga = T_D \dfrac{2a}{5}$	M1A1
	$X = \dfrac{2M}{3}$, 0.67 M or better	A1 (3)
2(b)	$M(D), T_C a + \dfrac{1}{2} Mg \dfrac{3a}{5} = \dfrac{2a}{5} Mg$ Other possible equations: $(\uparrow) T_C + T_D = Mg + \dfrac{1}{2} Mg$ $M(A), Mga + \dfrac{1}{2} Mg\,2a = T_C \dfrac{2a}{5} + T_D \dfrac{7a}{5}$ $M(B), Mga = T_C \dfrac{8a}{5} + T_D \dfrac{3a}{5}$ T_D <u>would need eliminating</u> $M(C), Mg \dfrac{3a}{5} + \dfrac{1}{2} Mg \dfrac{8a}{5} = T_D a$ $M(G), T_C \dfrac{3a}{5} + \dfrac{1}{2} Mga = T_D \dfrac{2a}{5}$	M1A1
	$T_C = \dfrac{1}{10} Mg$ oe	A1 (3)
		(6)
	Notes for question 2	
2(a)	M1 For an equation (or inequality,„) in X, M and *a only* (allow consistent missing a's) with correct no. of terms. Allow if one g is missing. **N.B.** M0 if Tc appears and never becomes zero	
	A1 Correct equation or inequality	
	A1 cao	
2(b)	M1 For an equation in Tc, M, g and *a only* (allow consistent missing a's or if g('s) missing) with correct no. of terms M0 if they assume that $T_C = T_D$ or if they assume their X value from (a).	
	A1 Correct equation	
	A1 cao	