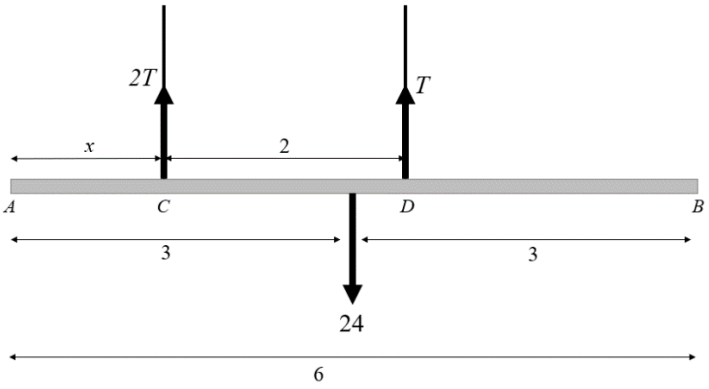
QUESTION NUMBER	SCHEME	MARKS
1		
	Form a moments equation M(A): $(2T \times x) + T(x+2) = (24 \times 3)$	M1 A1
	Form a second equation vert $3T = 24$	M1
	Alternative moments equations in x and T M(C): $24(3-x) = T \times 2$ M(G): $2T(3-x) = T(x-1)$ M(D): $(2T \times 2) = 24 \times (x-1)$ M(B): $2T(6-x) + T(4-x) = (24 \times 3)$ M(C): $\frac{24x}{6} \times \frac{x}{2} + 2T = \frac{24(6-x)}{6} \times \frac{(6-x)}{2}$	
	$T = 8\,(\text{N})$	A1
	$x = \frac{7}{3}$ accept 2.3 or better	A1
		(5)
	Notes for question 1	
M1	Forms a moments equation in x and T only with the correct no. of terms. Allow consistent extra g' s. M0 if no x.	
A1	Correct unsimplified moments equation. Where two moments equations are used, award this mark for the first correct equation.	
M1	Resolves vertically to give equation in T only or a second moments equation in x and T (M0 if no x.). Must be dimensionally correct with the correct no. of terms.	
A1	Correct value for tension at D	
A1	Correct value for x. Accept 2.3 or better **N.B.** If T and $2T$ the wrong way round or they use $24g$, can score max M1A0M1A0A0.	