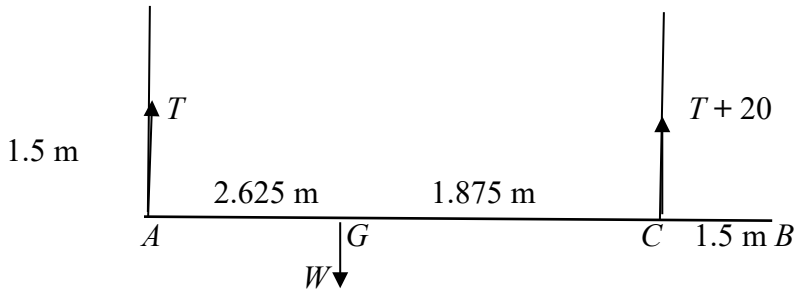
Question Number	Scheme	Marks
2.		
(a)	$T + (T + 20) = W$ $M(A),\ \ 4.5(T + 20) = 2.625W$ Any two of these $M(G),\ \ 2.625T = 1.875(T + 20)$ $M(C),\ \ 4.5T = 1.875W$ $M(B),\ \ 6T + 1.5(T + 20) = 3.375W$ **N.B.** The A marks and the DM1 can **only** be scored if the candidate is using T **and** $T + 20$ or T **and** $T - 20$ in **both** equations. **N.B.** Can score M1A1 for a correct vertical resolution, even if T and T +20 are the wrong way round. **N.B.** If they just use T_A and T_C, can score max M1A0 M1A0DM0A0 If they assume that $T_A = T_C$, can score max M1A0 M1A0DM0A0 If they assume that the tensions are T and 20, can score max M1A0 M1A0 DM0A0 If they use T and 20T, can score max M1A0 M1A0DM0A0 **N.B.** If it's not clear from their working which way round they have the two tensions, use their diagram to decide.	M1 A1 M1 A1
	Solve for W	DM1
	$W = 120$	A1
		(6)
(b)	The beam remains straight,or rigid, or in a straight line or 1-dimensional or it doesn't bend	B1 (1)
		(7)
	Notes for question 2	
(a)	M1 First equation (vertical resolution or moments) with usual rules	
	A1 Correct equation (T may be replaced by $T - 20$)	
	M1 Second equation (vertical resolution or moments) with usual rules	
	A1 Correct equation (T may be replaced by $T - 20$)	
	DM1 Dependent on previous two M marks, for solving for W	
	A1 cao	
(b)	B1 any appropriate comment. **N.B.** Penalise incorrect extras.	