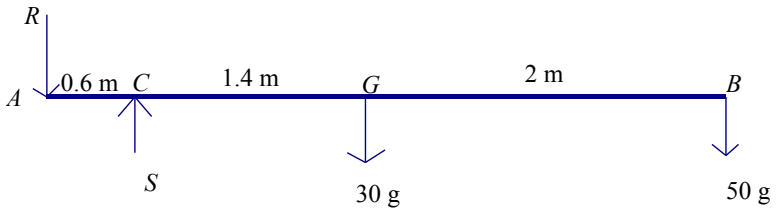
Question	Scheme		Marks
4(a)			
	$M(A)$ (30g x 2) + (50g x 4) = 0.6 S	Moments equation. Requires all terms and dimensionally correct. Condone sign errors. Allow M1 if g missing	M1
	$M(C)\ (0.6\times R)=(1.4\times 30\text{g})+(3.4\times 50\text{g})$ $M(G)\ (2\times R)=(1.4\times S)+(2\times 50\text{g})$ $M(B)\ (4\times R)+(2\times 30g)=(3.4\times S)$	Correct unsimplified equation	A1
	$(\uparrow)\ R+30g+50g=S$ $(R+784=S)$	Resolve vertically. Requires all 4 terms. Condone sign errors	M1
	Correct equation (with R or their R) NB: The second M1A1 can also be earned for a second moments equation		A1
	$R=3460$ or 3500 or $\frac{1060g}{3}$ (N) Not 353.3g	One force correct	A1
	$S=4250$ or 4200 or $\frac{1300g}{3}$ (N) Not 433.3g	Both forces correct If both forces are given as decimal multiples of g mark this as an accuracy penalty A0A1	A1
			(6)
(b)	$M(C)$ (30g x 1.4) + (Mg x 3.4) = 0.6 x 5000	Use $R=5000$ and complete method to form an equation in M or weight. Needs all terms present and dimensionally correct. Condone sign errors. Accept inequality. Use of R and S from (a) is M0	M1
		Correct equation in M (not weight) $(\text{implied by } M=77.68)$	A1
	$M=77$ kg	77.7 is A0 even is the penalty for over-specified answers has already been applied	A1
			(3)