Q	Scheme	Marks	Notes
2a	Resolve vertically or take moments	M1	**First** equation in R_C and/or R_D. Dimensionally correct, correct no. of terms. Condone sign errors. **N.B.** $3Rc + 2R_D = 75g$ or $5Rc = 75g$ are both M0A0 unless they recover.
			N.B. They may use: $R_C = 2R$ and $R_D = 3R$ so $5R = 75g$ is M1A1
	$\updownarrow R_C + R_D = 50g + 25g\,(= 75g)$	A1	Correct unsimplified equation but A0 if they assume $R_C = R_D$. **N.B.** This mark can be awarded even if they clearly have $R_C = 3X$ and $R_D = 2X$ oe
	Form a moments equation or resolve vertically	M1	**Second** equation in R_C and/or R_D. Dimensionally correct, correct no. of terms. Condone sign errors
	M(D): $50gx + 25g \times 1.2 = 3.3R_C$ M(A): $0.9R_C + 4.2R_D = 3 \times 25g + (4.2 - x)50g$ M(B): $5.1R_C + 1.8R_D = 3 \times 25g + (1.8 + x)50g$ M(C): $3.3R_D = 2.1 \times 25g + (3.3 - x)50g$ M(E): $2.1R_C = (x - 1.2)50g + 1.2R_D$ M(G): $R_D x = 25g(x - 1.2) + R_C(3.3 - x)$	A1	Correct unsimplified equation in R_D or R_C seen but give A0 if the equation is incorrect e.g if they put $3R$ (in place of R_C) straight into the equation. A0 if they assume $R_C = R_D$.
	$(2R_D = 3R_C \Rightarrow R_C = 30g)$ $50x + 30 = 99$	M1	Complete method, using either $2R_D = 3R_C$ or $2R_C = 3R_D$ to find an equation in x only
	$x = \frac{69}{50} = 1.38$ * **N.B**. Two **correct** equations and use of $2R_C = 3R_D$ leads to x = 2.37 and could score max : M1A1M1A1M1A0*	A1*	Obtain given answer from correct working, with no incorrect equations seen.
		[6]	
2b	Complete method to form an equation in M only.	M1	e.g. moments about D or vertical resolution and

			moments about another point or two moments equations. Dimensionally correct equation. Condone sign errors
	M(D) $25g\times1.2+50g\times1.38=1.8Mg$ **OR any two of :** $(50+25+M)g=R_D$ M(A) $4.2R_D=3\times25g+(4.2-1.38)50g+6Mg$ M(B) $1.8R_D=3\times25g+(1.8+1.38)50g$ M(C) $3.3R_D=2.1\times25g+(3.3-1.38)50g+5.1Mg$ M(E) $3Mg=(1.38-1.2)50g+1.2R_D$ M(G) $R_D\times1.38=25g(1.38-1.2)+Mg(1.38+1.8)$ **AND** R_D eliminated	A1	Correct unsimplified equation in M
	(M) = 55	A1	Correct only
		[3]	
		(9)	