QUESTION NUMBER	SCHEME	MARKS
5		
5(a)	M(D) $$(R_C \times 2.2) = 55g(2.2 - x) + 30g(1.1)$$	M1A1
	$$(R_C) = (686 - 245x) \ (\text{N}) \ *$$	A1 *
	N.B. The M mark here is not available if they use $R_C = 4R_D$ to obtain the given result.	
		(3)
5(b)	$R_C = 4R_D$	M1
	Vert: $R_C + R_D = 55g + 30g \quad \Rightarrow \dfrac{5}{4}(686 - 245x) = 55g + 30g$ Relevant moments equations: M(C): $55gx + 30g(1.1) = R_D(2.2)$ M(A): $R_C(0.4) + R_D(2.6) = 55g(x + 0.4) + 30g(1.5)$ M(P): $R_C x + 30g(1.1 - x) = R_D(2.2 - x)$ M(G): $R_C(1.1) = 55g(1.1 - x) + R_D(1.1)$ M(B): $R_D(0.4) + R_C(2.6) = 30g(1.5) + 55g(2.6 - x)$	M1A1
	$$x = 0.08$$	A1
		(4)
5(c)	M(C): $$Mg(0.4) = 30g(1.1)$$	M1 A1
	$$M = 83 \ \text{or} \ 82.5 \ \text{or} \ \frac{165}{2} \ \text{oe}$$	A1
	Other possible equations with $S_D = 0$ Vert: $S_C = Mg + 30g$ M(A): $S_C(0.4) = 30g(1.5)$ M(G): $S_C(1.1) = Mg(1.5)$ M(D): $S_C(2.2) = 30g(1.1) + Mg(2.6)$ M(B): $S_C(2.6) = 30g(1.5) + Mg(3)$	