

Question			Answer	Marks	AO	Guidance	
11	(a)		$12950 = 15t + 0.5(0.01)t^2$ leading to $t = \dots$ 11.7 (minutes)	M1 A1 A1 [3]	3.4 1.1 1.1	Use of $s = ut + \frac{1}{2}at^2$ Correct equation and attempt to solve BC cao (exact value is $11\frac{2}{3}$)	Consistent values used
11	(b)		$D - 1250 - 9000 = 70000(0.01)$ 10 950 (N)	M1 A1 [2]	3.3 1.1	N2L applied to the whole system, correct number of terms (allow sign errors) cao	
11	(c)		' 10950 ' – $9000 - T_C = 50000(0.01)$ or $T_C - 1250 = 20000(0.01)$ 1450 (N)	M1 A1 [2]	3.3 1.1	N2L applied correctly to either A or B, correct number of terms (allow sign errors) cao	