Question Number	Scheme	Marks
1	$(v=)8+2t-t^2$ $8+2t-t^2=(2+t)(4-t)=0\Rightarrow t=4$ Distance $=3+8\times4+4^2-\frac{1}{3}4^3=29\frac{2}{3}$ m (accept 29.7 or better or a recurring decimal)	B1 M1A1 A1 (4) [4]

B1	Correct differentiation
M1	Equate their differentiated expression (min 2 correct terms) to 0 (= 0 may be implied by their solution) and attempt to solve the 3 TQ by any valid method. Must reach t = ... Calculator solution: Allow M1A1 if their equation and its roots are correct , otherwise M0A0
A1	Correct value of t (Ignore t = -2 if shown)
A1	Correct distance, exact or min 3 s f Award A0 if value when t = -2 is also offered (and not excluded) If there is an error in the solution of their equation but t = 4 is used to obtain the correct answer this mark cannot be awarded.