Question			Answer	Marks	AO	Guidance	
10	(a)		$v = \int (4t - 9)\,\mathrm{d}t = 2t^2 - 9t\,(+c)$	M1*	1.1	Integrate given expression for a with at least one term (unsimplified) correct	+c not required for this first **M** mark
			$(1, 2) \Rightarrow 2 = 2 - 9 + c \therefore c = ...$	M1dep*	3.4	Using given conditions to find +c	
			$v = 2t^2 - 9t + 9$	A1	1.1	Condone '$v =$' missing.	
				[3]			
10	(b)		$2t^2 - 9t + 9 = 0 \Rightarrow t = ...$	M1	3.4	Setting their 3-term quadratic for v, from **(a),** equal to zero and solving for t	
			$(t_1 =)\ 1.5, \quad (t_2 =)\ 3$	A1	1.1	**BC**	
				[2]			
10	(c)		$\int_0^{1.5} \left(2t^2 - 9t + 9\right)\mathrm{d}t = \frac{45}{8}$	B1FT	3.1b	**BC** – correct value for their $\int_0^{t_1} v\,\mathrm{d}t$	Only **FT** when their 3-term quadratic in **(b)** leads to positive values for t_1 and t_2
			$\int_{1.5}^{3} \left(2t^2 - 9t + 9\right)\mathrm{d}t = -\frac{9}{8}$	B1FT	1.1	**BC –** correct value for their $\int_{t_1}^{t_2} v\,\mathrm{d}t$	
			Total distance travelled is 6.75 (m)	B1	3.2a	cao	
				[3]			