10	**(a)**		$v = pt^2 + qt + r$				
			$t = 0, v = 18 \Rightarrow r = 18$	**B1**	**3.4**		
			$t = 5, v = 9 \Rightarrow 25p + 5q + 18 = 9$	**M1**	**1.1**	Substitutes $t = 5, v = 9$ into quadratic	Allow with r
			$\frac{dv}{dt} = 2pt + q$	**B1**	**3.1b**		
			$t = 5, \frac{dv}{dt} = 0 \Rightarrow 10p + q = 0$	**M1**	**1.1**	Substitutes t = 5 and sets $\frac{dv}{dt} = 0$	Dependent on one term differentiated correctly
			$p = \frac{9}{25}, q = -\frac{18}{5}$	**A1**	**1.1**	**BC** (oe e.g. exact decimals)	
				[5]			
10	**(b)**		$\int_2^5 \left(\frac{9}{25}t^2 - \frac{18}{5}t + 18\right) dt$	**M1**	**3.4**	Using their values of p, q and r in an attempt to find the distance travelled from 2 to 5 by integration	
			$+ 9 \times 5$	**B1**	**1.1**	For distance travelled from 5 to 10	
			= 75.24 m	**A1**	**1.1**	**BC** cao (oe)	
				[3]			