

Q	Marking instructions	AO	Marks	Typical solution
17	Integrates to find $v$ with at least one non-constant term correct	3.4	M1	$v = \int 10 - 6t \, dt$ $v = 10t - 3t^2 + c$ <p>When <math>t = 0</math>, <math>v = 0</math> therefore <math>c = 0</math></p> $r = \int 10t - 3t^2 \, dt$ $r = 5t^2 - t^3 + c$ <p>When <math>t = 0</math>, <math>r = 0</math> therefore <math>c = 0</math></p> <p>So</p> $r = t^2(5 - t)$
	Obtains fully correct expression for $v$ Must include $+c$ or state that $c = 0$	1.1b	A1	
	Integrates their $v$ with at least one term correct	1.1a	M1	
	Completes reasoned argument to show $r = t^2(5 - t)$ Explanation for both constants of integration = 0 must be given	2.1	R1	
<b>Question 17 Total</b>			<b>4</b>	