8	**(a)**		$t = 0, v = 8 \Rightarrow c = 8$	**B1** **[1]**	**1.1**	Correct value of c	
8	**(b)**		$\frac{\mathrm{d}v}{\mathrm{d}t} = 2at + b$ $10a + b = -0.12$ $a(18)^2 + 18b + 8 = 2.96$ $a = -0.02, \quad b = 0.08$	**B1** **M1** **M1** **A1** **[4]**	**3.1b** **1.1** **1.1** **3.1a**	Correct derivative Substitutes $t = 5$ into their derivative for v and sets equal to ± 0.12 Substitutes $t = 18$ into v and sets equal to 2.96 **BC** (oe e.g. $a = -\frac{1}{50}, b = \frac{2}{25}$)	Allow if still contains c
8	**(c)**		$\int_0^{18} (-0.02t^2 + 0.08t + 8)\,\mathrm{d}t$ $= 118$ (m)	**M1** **A1** **[2]**	**1.1a** **1.1**	Attempts integral between 0 and 18 for their v (with their values for a, b and c) **BC** Allow 118.08	At least two powers increased by 1 if shown