Question	Answer	Marks	Partial Marks
9	$\int e^{\frac{t}{4}}\,dt = 4e^{\frac{t}{4}}(+c)$ and $\int \frac{16e}{t^2}dt = \frac{-16e}{t}(+c)$	**B3**	**B2** for either correct or **B1** for $\int e^{\frac{t}{4}}\,dt = ae^{\frac{t}{4}}(+c)$ where a is a constant, $a > 0$ or $\int \frac{16e}{t^2}dt = \frac{-b}{t}(+c)$ where b is a constant $b > 0$
	Correct plan: $\int_0^4 e^{\frac{t}{4}}\,dt + \int_4^k \frac{16e}{t^2}dt = 13.4$ soi	**M1**	
	Correct equation: $4e^1 - 4e^0 + \left(-\frac{16e}{k} + \frac{16e}{4}\right) = 13.4$ OR [When $t = 4$ $s = 4e - 4$ When $t = k$ $s = \frac{-16e}{k} + 8e - 4$ and] $13.4 = \frac{-16e}{k} + 8e - 4$	**A1**	**dep** on **B3**; implies **M1**
	$k = 10$ or awrt 10.0	**A1**	dep on all previous marks awarded
10	$\lambda\left(\mathbf{c} + \frac{2}{5}\mathbf{b}\right)$ isw	**B2**	**B1** for $\lambda(\mathbf{c} + k\mathbf{b})$ where $k \neq \frac{2}{5}$ or 1, $k > 0$
	$2\mathbf{c} + \mu(\mathbf{b} - \mathbf{c})$ isw or $\mu\mathbf{b} + (2 - \mu)\mathbf{c}$ isw or $\mathbf{c} + \mathbf{b} + (1 - \mu)(\mathbf{c} - \mathbf{b})$ isw	**B2**	**B1** for any of the following with $n > 0$ $2\mathbf{c} + \mu(\mathbf{b} - n\mathbf{c})$ or $n\mathbf{c} + \mu(\mathbf{b} - \mathbf{c})$ or $\mathbf{c} + \mathbf{b} + (1 - \mu)(n\mathbf{c} - \mathbf{b})$ or $n(\mathbf{c} + \mathbf{b}) + (1 - \mu)(\mathbf{c} - \mathbf{b})$
	Equates components at least once $\lambda = 2 - \mu$ or $\frac{2}{5}\lambda = \mu$ soi	**M1**	**FT** providing of equivalent forms e.g.: $\lambda(s\mathbf{c} + t\mathbf{b})$ and $x\mathbf{c} + \mu(y\mathbf{b} + z\,\mathbf{c})$ where s, t, x, y, z are scalars
	$\lambda = 2 - \mu$ **and** $\frac{2}{5}\lambda = \mu$ soi, nfww	**A1**	
	$\mu = \frac{4}{7}$ $\left[\lambda = \frac{10}{7}\right]$	**A1**	
	[$AE : EB$ =] 4 : 3 oe	**A1**	must have earned all previous marks