	Allow use of column vectors		
5a	$\mathbf{a} = \dfrac{(\mathbf{i}+7\mathbf{j})-(3\mathbf{i}+5\mathbf{j})}{0.5}$ oe	M1	Use of $\mathbf{a} = \dfrac{\mathbf{v}-\mathbf{u}}{t}$ Allow **u** and **v** reversed
	$\mathbf{a} = -4\mathbf{i}+4\mathbf{j}$	A1	Or equivalent
	$\Rightarrow \mathbf{v}_P = (3\mathbf{i}+5\mathbf{j})+(-4\mathbf{i}+4\mathbf{j})t$	M1	For their **a**
	$= (3-4t)\mathbf{i}+(5+4t)\mathbf{j}$	A1ft	Follow their **a.** Must collect **i**'s and **j**'s This could be implied in subsequent working
	$\Rightarrow 5+4T = -2(3-4T)$	M1	Use of correct ratio to form equation in T (allow t)
	$T = \dfrac{11}{4}$ oe	A1	cao
		(6)	
5b	$\mathbf{v}_P = \mathbf{v}_Q \Rightarrow \begin{pmatrix} 3-4t \\ 5+4t \end{pmatrix} = \begin{pmatrix} -4-2t \\ \mu+3t \end{pmatrix}$ $\Rightarrow 3-4t = -4-2t$ and $5+4t = \mu+3t$	M1	Equate velocities and form two equations in t and μ i.e. must equate coefficients of **i** and **j** oe Follow their $\mathbf{v}_P$
		M1	Solve for μ. Follow their $\mathbf{v}_P$
	$\mu = 8.5$ oe	A1	cao
		(3)	
		[9]	