3			**Allow column vectors**
	Use of $\mathbf{I} = m\mathbf{v} - m\mathbf{u}$	M1	Must be subtracting
	$(\mathbf{I} =) \pm 0.5\left((4-\lambda)\mathbf{i} + (-\lambda)\mathbf{j}\right)$	A1	Accept $\pm$ correct unsimplified expression on right hand side. (Ignore the left hand side) Allow $2\mathbf{i} - \frac{\lambda}{2}(\mathbf{i}+\mathbf{j})$ or equivalent
	Use of magnitude to form an equation in one variable	M1	Correct use of Pythagoras
	$\frac{5}{2} = \frac{1}{4}\left((4-\lambda)^2 + (-\lambda)^2\right)$	A1ft	Follow their **I**
	$0 = 2\lambda^2 - 8\lambda + 6 \quad \left(= (2\lambda - 6)(\lambda - 1)\right)$	DM1	Form a 3 term quadratic (seen or implied). Not necessarily stated "= 0" From $\mathbf{I} = a\mathbf{i} + b\mathbf{j}$ can obtain $4a^2 - 8a + 3 = 0$ or $4b^2 + 8b + 3 = 0$ Dependent on the preceding M1 **Solving not required for the M1.**
	$\lambda = 3$ and $\lambda = 1$	A1cso	**From correct solution only.** Do not need to see method of solution.
		[6]	
3alt	Use of $\mathbf{I} = m\mathbf{v} - m\mathbf{u}$ to form a vector triangle	M1	
	Triangle with sides of length $\sqrt{\frac{5}{2}}, \lvert 2\mathbf{i}\rvert$ and $\left\lvert \frac{\lambda}{2}(\mathbf{i}+\mathbf{j}) \right\rvert$	A1	
	Use of cosine rule with $45°\left(\frac{\pi}{4}\right)$	M1	
	$\frac{5}{2} = 2^2 + \left(\frac{\lambda}{2}\right)^2 \times 2 - 2 \times 2 \times \frac{\lambda}{2}\sqrt{2}\cos 45°$	A1ft	Correct unsimplified equation Follow their magnitudes
	$0 = \lambda^2 - 4\lambda + 3 \quad \left(= (\lambda - 3)(\lambda - 1)\right)$	DM1	Form a 3 term quadratic (seen or implied) Dependent on the preceding M1
	$\lambda = 3$ and $\lambda = 1$	A1	Correct solution only
		[6]	
		(6)	