Question	Scheme	Marks	Notes
1a	$\mathbf{I} = m\mathbf{v} - m\mathbf{u}$	M1	Must be subtracting but condone subtraction in wrong order
	$= 0.3\left(\left(7\mathbf{i} + 7\mathbf{j}\right) - 5\mathbf{i}\right) \quad \left(= 0.6\mathbf{i} + 2.1\mathbf{j}\right)$	A1	correct unsimplified equation Allow $\pm$
	$\left\|\mathbf{I}\right\| = \sqrt{0.6^2 + 2.1^2}$	M1	Use of Pythagoras
	$= \frac{3\sqrt{53}}{10}$	A1	2.2 or better (2.18403…)
		(4)	
1b	Correct method for a relevant angle	M1	e.g. use of trigonometry or scalar product for their **I** θ or 90 - θ
	Correct trig ratio for the required angle and no other angle involved.	A1	From correct **I** e.g. $\tan\theta = \frac{7}{2}$ or $\cos\theta = \frac{10}{\sqrt{53}\times 5}$
	$\theta = 74.1°$	A1	$74°$ or better $\left(74.0546..°\right)$ or 360 – 74 (286) (1.29… radians)
		(3)	