Question	Scheme	Marks	AOs
1(a)	$(-\mathbf{i}+4\mathbf{j})+3(3\mathbf{i}-2\mathbf{j})$	M1	2.1
	$=(8\mathbf{i}-2\mathbf{j})$	A1	1.1b
	$\sqrt{8^2+(-2)^2}$	M1	3.1a
	$=\sqrt{68}$ (m s^{-1})	A1	1.1b
		(4)	
1(b)	Use of $\mathbf{s}=\mathbf{u}t+\frac{1}{2}\mathbf{a}t^2$ with $t=2$	M1	2.1
	$2(-\mathbf{i}+4\mathbf{j})+\frac{1}{2}(3\mathbf{i}-2\mathbf{j})\times 2^2$	A1	1.1b
	$(9\mathbf{i}+2\mathbf{j})$ (m)	A1ft	3.1a
		(3)	
			(7 marks)

Notes: Accept column vectors throughout

1a	M1	Use of $\mathbf{v}=\mathbf{u}+\mathbf{a}t$ with $t=3$.
	A1	cao
	M1	Use of Pythagoras with square root.
	A1	Any equivalent surd.
1b	M1	Any other complete method to find the displacement vector.
	A1	Correct unsimplified expression.
	A1ft	Their displacement vector + $(5\mathbf{i}-2\mathbf{j})$