

Question	Scheme	Marks	AOs
3(a)	Attempts $\vec{AB} = \vec{OB} - \vec{OA}$ or similar	M1	1.1b
	$\vec{AB} = -9\mathbf{i} + 3\mathbf{j}$	A1	1.1b
		(2)	
(b)	Finds length using 'Pythagoras' $ AB = \sqrt{(-9)^2 + (3)^2}$	M1	1.1b
	$ AB = 3\sqrt{10}$	A1ft	1.1b
		(2)	

(4 marks)

Notes

(a)

M1: Attempts subtraction either way around.

This may be implied by one correct component $\vec{AB} = \pm 9\mathbf{i} \pm 3\mathbf{j}$

There must be some attempt to write in vector form.

A1: cao (allow column vector notation but not the coordinate)

Correct notation should be used. Accept $-9\mathbf{i} + 3\mathbf{j}$ or $\begin{pmatrix} -9 \\ 3 \end{pmatrix}$ but not $\begin{pmatrix} -9\mathbf{i} \\ 3\mathbf{j} \end{pmatrix}$

(b)

M1: Correct use of Pythagoras theorem or modulus formula using their answer to (a)

Note that $|AB| = \sqrt{(9)^2 + (3)^2}$ is also correct.

Condone missing brackets in the expression $|AB| = \sqrt{-9^2 + (3)^2}$

Also allow a restart usually accompanied by a diagram.

A1ft: $|AB| = 3\sqrt{10}$ ft from their answer to (a) as long as it has both an **i** and **j** component.

It must be simplified, if appropriate. Note that $\pm 3\sqrt{10}$ would be M1 A0

Note that, in cases where there is no working, the correct answer implies M1A1 in each part of this question