

- 6** Two points, A and B, have position vectors $\mathbf{a} = \mathbf{i} - 3\mathbf{j}$ and $\mathbf{b} = 4\mathbf{i} + 3\mathbf{j}$.
The point C lies on the line $y = 1$. The lengths of the line segments AC and BC are equal.
Determine the position vector of C.

[4]