

2 Points A and B have position vectors $\overrightarrow{OA} = 2\mathbf{i} + 3\mathbf{j}$ and $\overrightarrow{OB} = -\mathbf{i} + 5\mathbf{j}$, respectively, where O is the origin.

(a) Find the position vector of the midpoint of AB . **[1]**

(b) Find the exact magnitude of the vector \overrightarrow{AB} . **[3]**

(c) Find the angle between the vector \overrightarrow{OA} and the positive x -axis. **[2]**