Answer all ELEVEN questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1   Referred to a fixed origin O, the point A has position vector $(4\mathbf{i} + 3\mathbf{j})$ and the point B has position vector $(\mathbf{i} + 7\mathbf{j})$

   (a) Find $\overrightarrow{AB}$ as a simplified expression in terms of $\mathbf{i}$ and $\mathbf{j}$

   (2)

   (b) Find a unit vector that is parallel to $\overrightarrow{AB}$

   (2)

(Total for Question 1 is 4 marks)