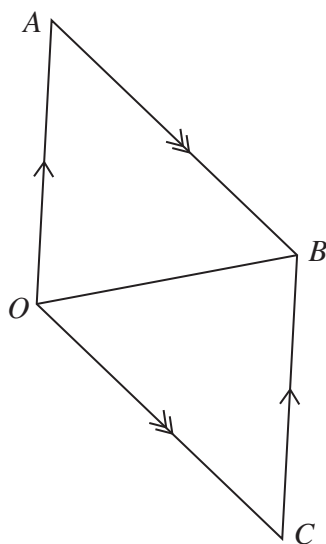**8**

The diagram shows a parallelogram $OABC$ in which

$$\overrightarrow{OA} = \begin{pmatrix} 3 \\ 3 \\ -4 \end{pmatrix} \quad \text{and} \quad \overrightarrow{OB} = \begin{pmatrix} 5 \\ 0 \\ 2 \end{pmatrix}.$$

  (i) Use a scalar product to find angle BOC. [6]

 (ii) Find a vector which has magnitude 35 and is parallel to the vector $\overrightarrow{OC}$. [2]