

2 The point  $A$  is such that the magnitude of  $\vec{OA}$  is 8 and the direction of  $\vec{OA}$  is  $240^\circ$ .

(a) (i) Show the point  $A$  on the axes provided in the Printed Answer Booklet. [1]

(ii) Find the position vector of point  $A$ .  
Give your answer in terms of  $\mathbf{i}$  and  $\mathbf{j}$ . [3]

The point  $B$  has position vector  $6\mathbf{i}$ .

(b) Find the exact area of triangle  $AOB$ . [2]

The point  $C$  is such that  $OABC$  is a parallelogram.

(c) Find the position vector of  $C$ .  
Give your answer in terms of  $\mathbf{i}$  and  $\mathbf{j}$ . [2]