

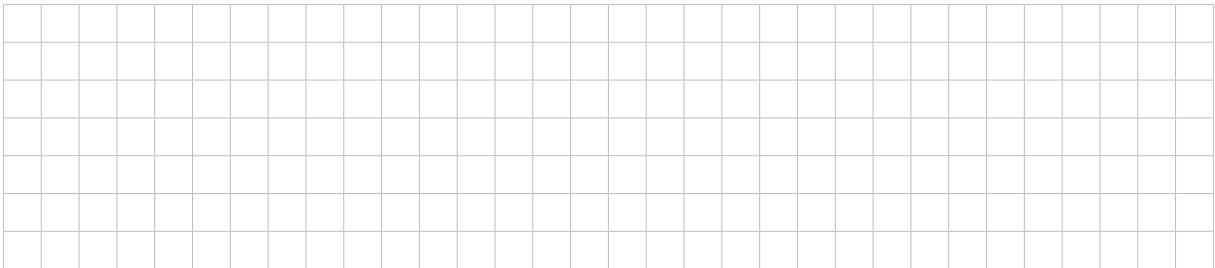
(ii) Using vectors, show that the area of triangle APQ is $\frac{1}{2(k+1)^2} |\mathbf{a} \times \mathbf{b}|$.



(2 marks)

(c) If $|\mathbf{a} \times \mathbf{b}| = 9$ and $k = 4$:

(i) find the area of triangle APQ



(1 mark)

(ii) find the area of quadrilateral $PQBC$.



(2 marks)