

(i) Express each of the vectors \overrightarrow{PB} and \overrightarrow{PQ} in terms of \mathbf{i} , \mathbf{j} and \mathbf{k} . [4]

This image shows a full page of white paper with horizontal dashed lines, typical of primary-ruled notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

(ii) Determine whether P is nearer to Q or to B .

[2]

[illegible]

(iii) Use a scalar product to find angle BPQ .

[3]

[illegible]