Name :   Series A

Determine the distance from $(7; 13)$ to $(35; -8)$

Give the components of the unit vector that is parallel to $\vec{a} = \begin{pmatrix} -7 \\ 24 \end{pmatrix}$ but opposite to it.

Use the scalar product to find k such that $\begin{pmatrix} 5 \\ k \end{pmatrix} \perp \begin{pmatrix} 3k+1 \\ -4 \end{pmatrix}$

Determine with computations the angle between $\vec{a} = \begin{pmatrix} -3 \\ 4 \end{pmatrix}$ and $\vec{b} = \begin{pmatrix} 5 \\ 12 \end{pmatrix}$

Give the Cartesian equation of the line passing through $(-7; 3)$ that is perpendicular to $\begin{pmatrix} 6 \\ -2 \end{pmatrix}$

Give the Cartesian equation of the perpendicular bissector of the segment AB, with $A(2; 8)$ and $B(10; 6)$.

Determine the distance from the point $(-1; 2)$ to the line $6x - 8y - 11 = 0$