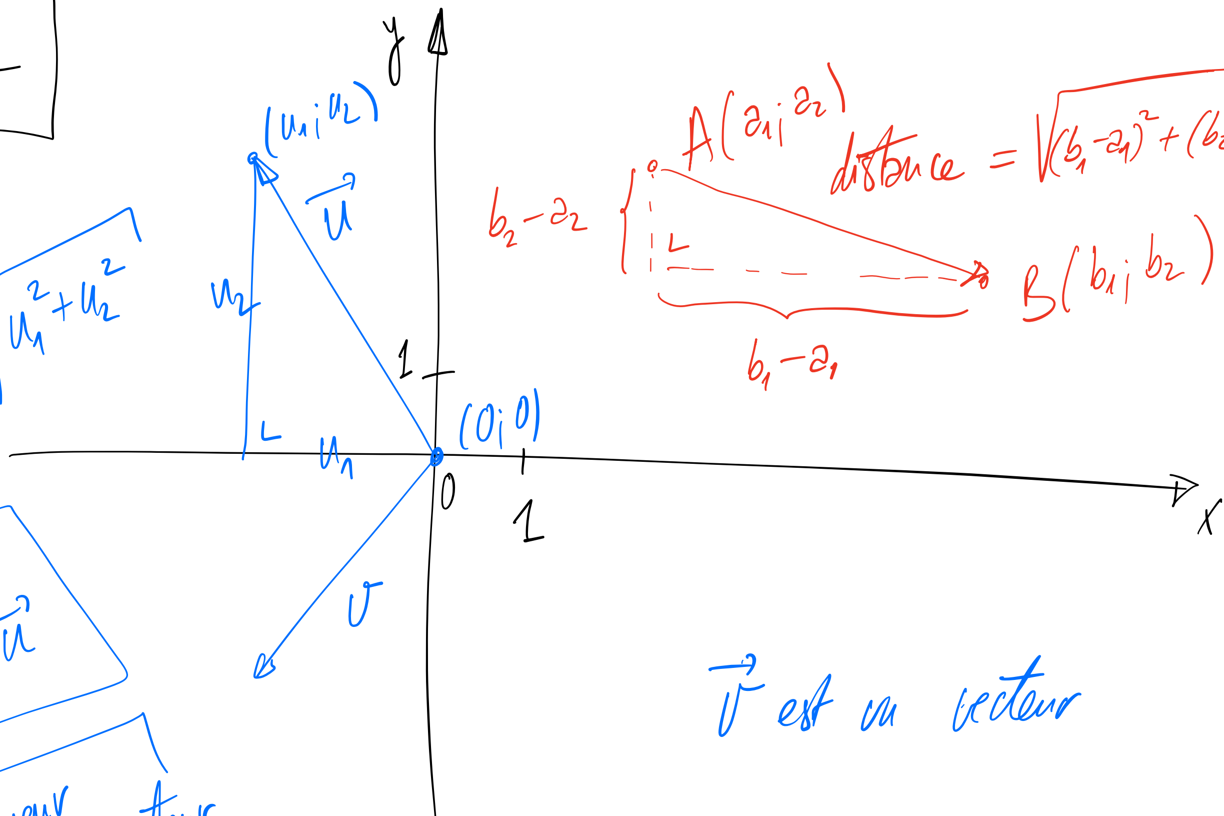
Norme

$$\underbrace{\|\vec{u}\|}_{\text{norme de } \vec{u}} = \sqrt{u_1^2 + u_2^2}$$

longueur du vecteur

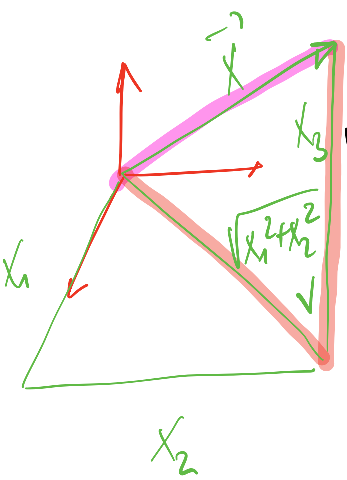


distance $= \sqrt{(b_1-a_1)^2 + (b_2-a_2)^2}$

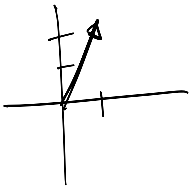
$\vec{v}$ est un vecteur

$\underbrace{\|\vec{v}\|}_{\text{un nombre } \geq 0}$ est la norme de $\vec{v}$

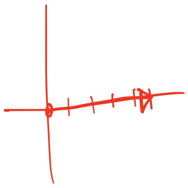
$$\vec{x} = \begin{pmatrix} x_1 \\ x_2 \\ x_3 \end{pmatrix} \qquad \|\vec{x}\| = \sqrt{x_1^2 + x_2^2 + x_3^2}$$



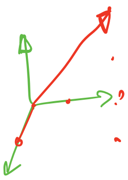
$$\sqrt{\left(\sqrt{x_1^2+x_2^2}\right)^2 + x_3^2} = \sqrt{x_1^2+x_2^2+x_3^2}$$



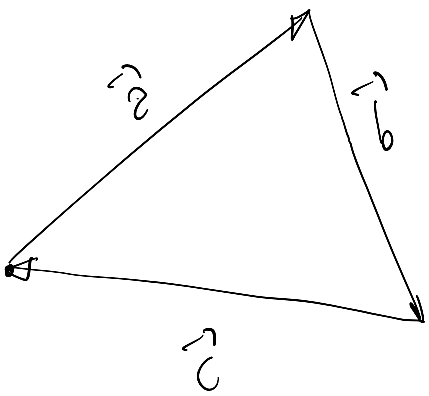
$$\begin{pmatrix}1\\2\end{pmatrix} \qquad \left\|\begin{pmatrix}1\\2\end{pmatrix}\right\| = \sqrt{1^2+2^2} = \boxed{\sqrt{5}}$$



$$\begin{pmatrix}5\\0\end{pmatrix} \qquad \left\|\begin{pmatrix}5\\0\end{pmatrix}\right\| = \sqrt{5^2+0^2} = \sqrt{25} = \boxed{5}$$



$$\left\|\begin{pmatrix}1\\2\\3\end{pmatrix}\right\| = \sqrt{1^2+2^2+3^2} = \boxed{\sqrt{14}}$$



$$\|\vec{a}+\vec{b}+\vec{c}\| = \|\vec{0}\| = 0$$

$$\|\vec{a}\| + \|\vec{b}\| + \|\vec{c}\| > 0$$

$\vec{u}$ est UNITAIRE $\Leftrightarrow$ $\|\vec{u}\| = 1$

$\vec{u} = \begin{pmatrix}u_1\\u_2\end{pmatrix}$ $\Leftrightarrow$ $\sqrt{u_1^2+u_2^2} = 1$

$\vec{x} = \begin{pmatrix}x_1\\x_2\\x_3\end{pmatrix}$ UNITAIRE $\Leftrightarrow$ $\sqrt{x_1^2+x_2^2+x_3^2} = 1$