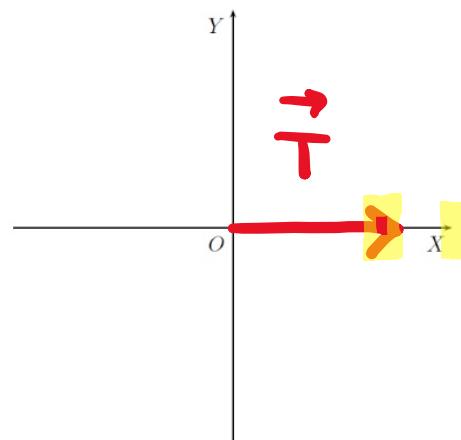


Soit $T = \|\vec{T}\|$ la norme du vecteur \vec{T} .

Projeter un vecteur dans un repère



Rappel : $\begin{cases} \cos \alpha = \frac{\text{côté adjacent}}{\text{hypothénuse}} \\ \sin \alpha = \frac{\text{côté opposé}}{\text{hypothénuse}} \end{cases}$

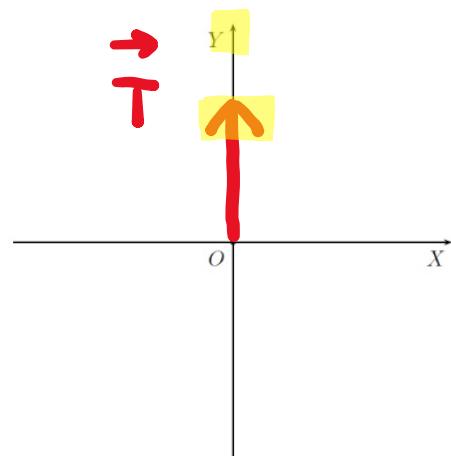
$$\vec{T} \begin{pmatrix} +T \\ 0 \end{pmatrix} \text{ ou } \vec{T} = +T \cdot \vec{u}_x + 0 \cdot \vec{u}_y$$

$$\begin{aligned} \cos \alpha &= \frac{T_x}{T} \\ \sin \alpha &= \frac{T_y}{T} \end{aligned}$$

$$\vec{T} \begin{pmatrix} +T \cos \alpha \\ +T \sin \alpha \end{pmatrix} \Leftrightarrow \vec{T} = T \cos \alpha \vec{u}_x + T \sin \alpha \vec{u}_y$$

$$\begin{aligned} \cos \beta &= \frac{T_y}{T} \\ \sin \beta &= \frac{T_x}{T} \end{aligned}$$

$$\vec{T} \begin{pmatrix} T \cdot \sin \beta \\ T \cos \beta \end{pmatrix} \Leftrightarrow \vec{T} = T \sin \beta \vec{u}_x + T \cos \beta \vec{u}_y$$



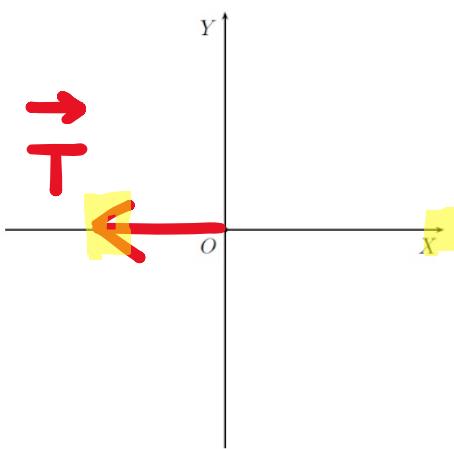
$$\vec{T} \begin{pmatrix} 0 \\ +T \end{pmatrix} \Leftrightarrow \vec{T} = 0 \cdot \vec{u}_x + T \cdot \vec{u}_y$$

$$\begin{aligned} \cos \alpha &= +\frac{T_y}{T} \\ \sin \alpha &= -\frac{T_x}{T} \end{aligned}$$

$$\vec{T} \begin{pmatrix} -T \sin \alpha \\ T \cos \alpha \end{pmatrix} \Rightarrow \vec{T} = -T \sin \alpha \vec{u}_x + T \cos \alpha \vec{u}_y$$

$$\begin{aligned} \cos \beta &= -\frac{T_x}{T} \\ \sin \beta &= +\frac{T_y}{T} \end{aligned}$$

$$\vec{T} \begin{pmatrix} -T \cos \beta \\ T \sin \beta \end{pmatrix} \Rightarrow \vec{T} = -T \cos \beta \vec{u}_x + T \sin \beta \vec{u}_y$$

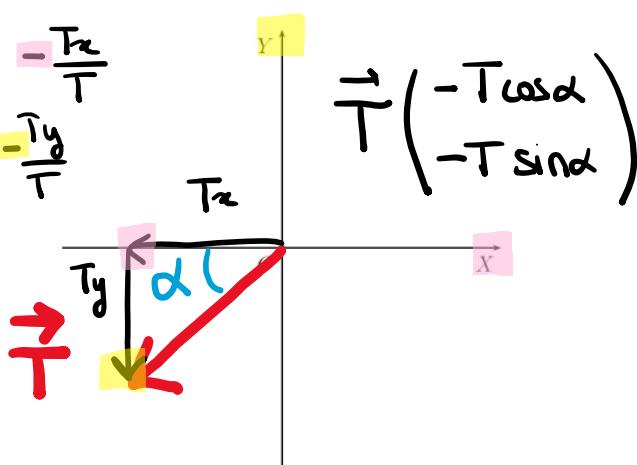


$$\vec{T} \left(\begin{matrix} -T \\ 0 \end{matrix} \right)$$

$$\vec{T} = -T \vec{u_x} + 0 \cdot \vec{u_y}$$

$$\cos\alpha = -\frac{T_x}{T}$$

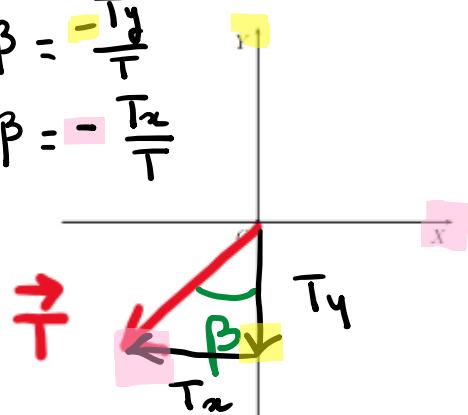
$$\sin\alpha = \frac{T_y}{T}$$



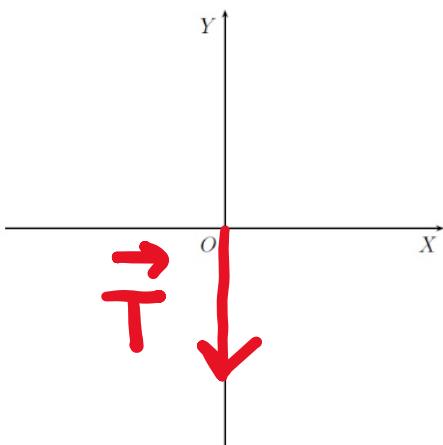
$$\vec{T} \left(\begin{matrix} -T \cos\alpha \\ -T \sin\alpha \end{matrix} \right)$$

$$\cos\beta = \frac{T_y}{T}$$

$$\sin\beta = -\frac{T_x}{T}$$



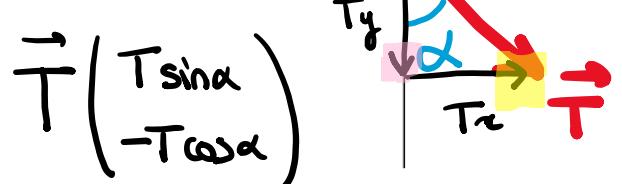
$$\vec{T} \left(\begin{matrix} -T \sin\beta \\ -T \cos\beta \end{matrix} \right)$$



$$\vec{T} \left(\begin{matrix} 0 \\ -T \end{matrix} \right)$$

$$\cos\alpha = -\frac{T_y}{T}$$

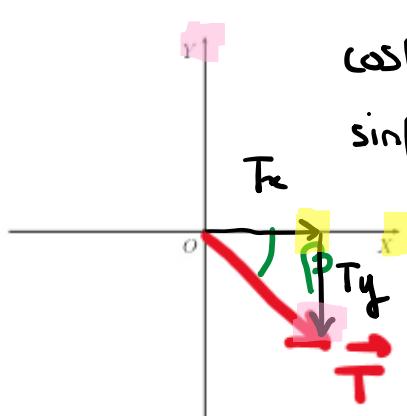
$$\sin\alpha = +\frac{T_x}{T}$$



$$\vec{T} \left(\begin{matrix} T \sin\alpha \\ -T \cos\alpha \end{matrix} \right)$$

$$\cos\beta = +\frac{T_x}{T}$$

$$\sin\beta = -\frac{T_y}{T}$$



$$\vec{T} \left(\begin{matrix} +T \cos\beta \\ -T \sin\beta \end{matrix} \right)$$