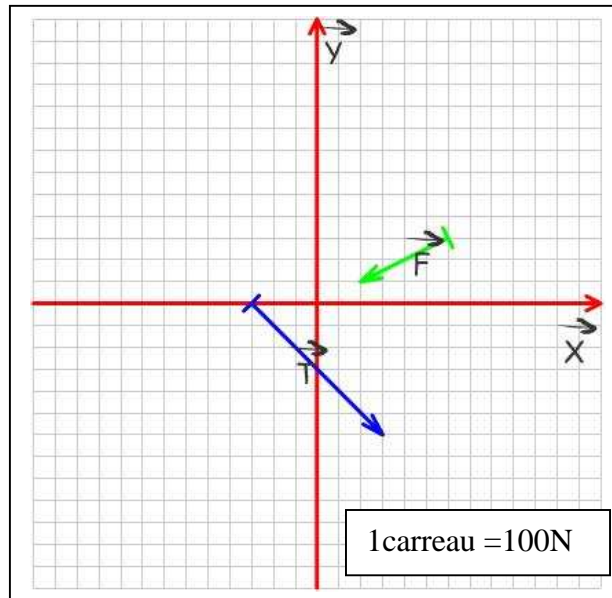


Vecteurs

Exercice 4



1-Calculer les coordonnées de $\vec{F} + \vec{T}$

2-Calculer la norme de $\vec{F} + \vec{T}$

1-Analytiquement

$$\|\vec{F}\| \begin{pmatrix} -4c \\ -2c \end{pmatrix} \quad \|\vec{T}\| \begin{pmatrix} +6c \\ -6c \end{pmatrix}$$

$$\|\vec{F}\| \begin{pmatrix} -400N \\ -200N \end{pmatrix} \quad \|\vec{T}\| \begin{pmatrix} +600N \\ -600N \end{pmatrix}$$

$$\|\vec{F}\| + \|\vec{T}\| \begin{pmatrix} +200N \\ -800N \end{pmatrix}$$

$$\|\vec{F} + \vec{T}\| = \sqrt{\|(\vec{F} + \vec{T})_x\|^2 + \|(\vec{F} + \vec{T})_y\|^2}$$

$$\|\vec{F} + \vec{T}\| = \sqrt{200^2 + 800^2}$$

$$\|\vec{F} + \vec{T}\| = \sqrt{40000 + 640000}$$

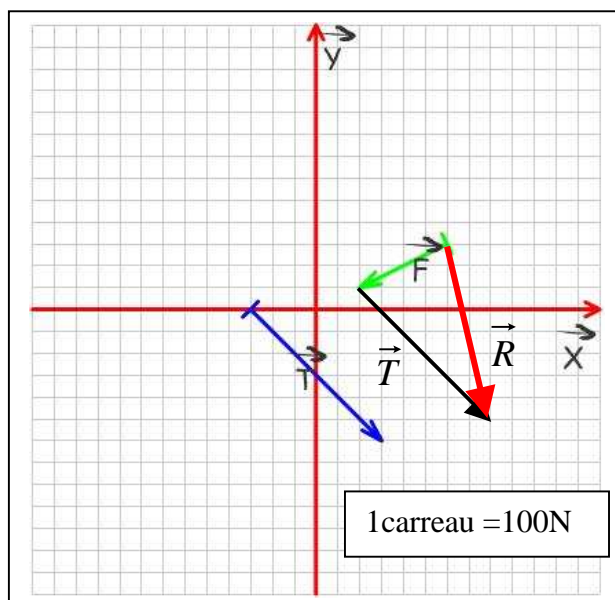
$$\|\vec{F} + \vec{T}\| = 825N$$

2-Géométriquement

$$\vec{R} = \|\vec{F}\| + \|\vec{T}\|$$

$$\vec{R} \begin{pmatrix} +2c \\ -8c \end{pmatrix}$$

$$\vec{R} \begin{pmatrix} +200N \\ -800N \end{pmatrix}$$



$$\|\vec{R}\| = \sqrt{\|\vec{R}_x\|^2 + \|\vec{R}_y\|^2}$$

$$\|\vec{R}\| = \sqrt{200^2 + 800^2}$$

$$\|\vec{R}\| = \sqrt{40000 + 640000}$$

$$\|\vec{F} + \vec{T}\| = 825N$$