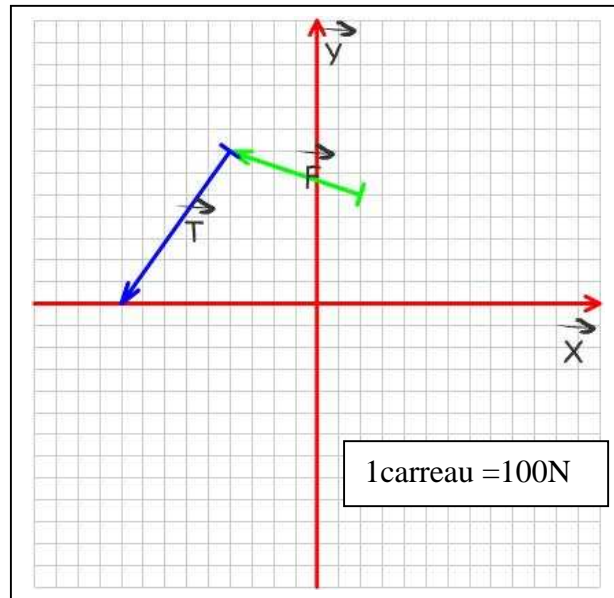


Vecteurs

Exercice 3



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

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

1-Analytiquement

$$\|\vec{F}\| \begin{pmatrix} -6c \\ +2c \end{pmatrix} \quad \|\vec{T}\| \begin{pmatrix} -5c \\ -7c \end{pmatrix}$$

$$\|\vec{F}\| \begin{pmatrix} -600N \\ +200N \end{pmatrix} \quad \|\vec{T}\| \begin{pmatrix} -500N \\ -700N \end{pmatrix}$$

$$\|\vec{F}\| + \|\vec{T}\| \begin{pmatrix} -1100N \\ -500N \end{pmatrix}$$

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

$$\|\vec{F} + \vec{T}\| = \sqrt{1100^2 + 500^2}$$

$$\|\vec{F} + \vec{T}\| = \sqrt{1210000 + 250000}$$

$$\|\vec{F} + \vec{T}\| = \sqrt{1460000}$$

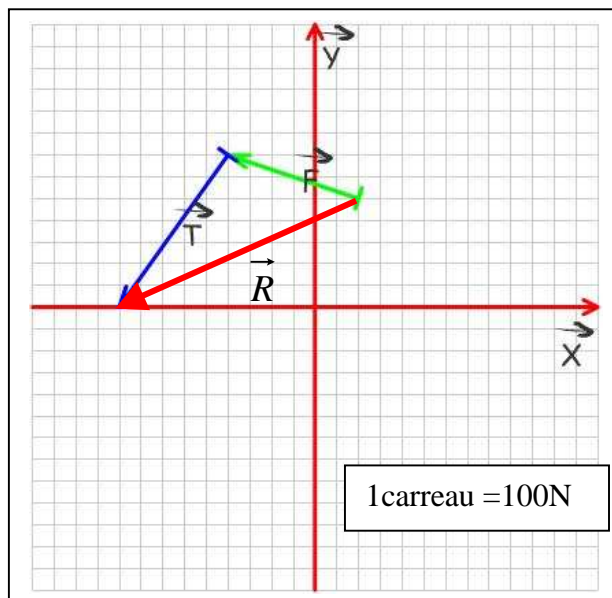
$$\|\vec{F} + \vec{T}\| = 1208N$$

2-Géométriquement

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

$$\vec{R} \begin{pmatrix} -11c \\ -5c \end{pmatrix}$$

$$\vec{R} \begin{pmatrix} -1100N \\ -500N \end{pmatrix}$$



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

$$\|\vec{R}\| = \sqrt{1100^2 + 500^2}$$

$$\|\vec{R}\| = \sqrt{1210000 + 250000}$$

$$\|\vec{F} + \vec{T}\| = 1208N$$