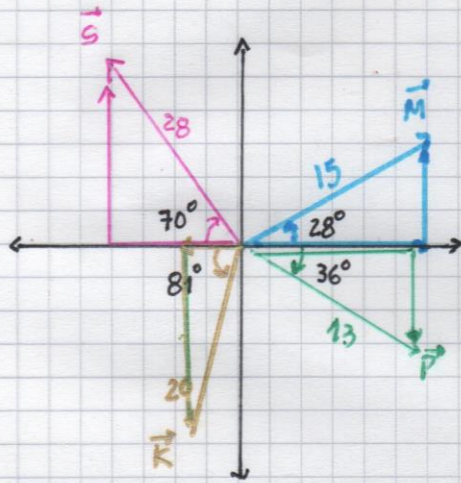


EJERCICIO

Hallar el vector resultante de los vectores \vec{M} , \vec{S} , \vec{K} , \vec{P}



$$\begin{aligned} \vec{M}_x &= 15 \cdot \cos 28^\circ \\ &= 15 \cdot 0,88 \\ &= \underline{13,2} \end{aligned}$$

$$\begin{aligned} \vec{M}_y &= 15 \cdot \sin 28^\circ \\ &= 15 \cdot 0,47 \\ &= \underline{7,05} \end{aligned}$$

$$\begin{aligned} \vec{S}_x &= 28 \cdot \cos 70^\circ \\ &= 28 \cdot 0,34 \\ &= \underline{-9,52} \end{aligned}$$

$$\begin{aligned} \vec{S}_y &= 28 \cdot \sin 70^\circ \\ &= 28 \cdot 0,94 \\ &= \underline{26,32} \end{aligned}$$

$$\begin{aligned} \vec{K}_x &= 20 \cdot \cos 81^\circ \\ &= 20 \cdot 0,16 \\ &= \underline{-3,2} \end{aligned}$$

$$\begin{aligned} \vec{K}_y &= 20 \cdot \sin 81^\circ \\ &= 20 \cdot 0,99 \\ &= \underline{-19,8} \end{aligned}$$

$$\begin{aligned} \vec{P}_x &= 13 \cdot \cos 36^\circ \\ &= 13 \cdot 0,81 \\ &= \underline{10,53} \end{aligned}$$

$$\begin{aligned} \vec{P}_y &= 13 \cdot \sin 36^\circ \\ &= 13 \cdot 0,59 \\ &= \underline{-7,67} \end{aligned}$$

COMPONENTE RESULTANTE X

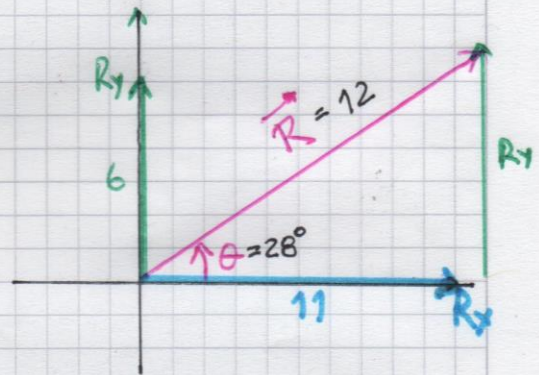
$$\vec{R}_x = 13,2 - 9,52 - 3,2 + 10,53$$

$$\vec{R}_x = 11,01 \approx 11$$

COMPONENTE RESULTANTE Y

$$\vec{R}_y = 7,05 + 26,32 - 19,8 - 7,67$$

$$\vec{R}_y = 5,9 \approx 6$$



VECTOR RESULTANTE \vec{R}

$$\vec{R} = \sqrt{R_x^2 + R_y^2}$$

$$\vec{R} = \sqrt{11^2 + 6^2}$$

$$\vec{R} = \sqrt{121 + 36}$$

$$\vec{R} = \sqrt{157}$$

$$\vec{R} = 12,5 \approx 12$$

ANGULO VECTOR RESULTANTE

$$\theta = \tan^{-1} \frac{6}{11}$$

$$\theta = \tan^{-1} 0,54$$

$$\theta = 28^\circ$$