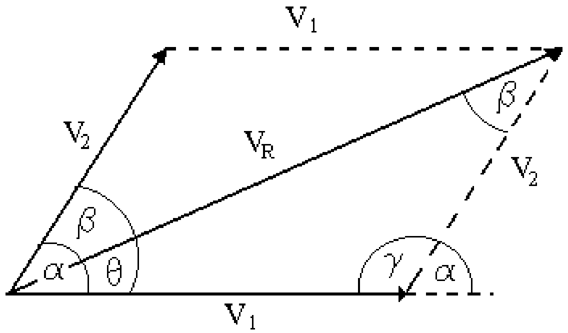
CPU
Calle Mercado # 555
Teléfono 3366191

Suma de Vectores



V_R = Vector Resultante, Vector Suma

Ley de los Senos

$$\frac{V_1}{\operatorname{sen}\beta}=\frac{V_2}{\operatorname{sen}\theta}=\frac{V_R}{\operatorname{sen}\gamma}=\frac{V_R}{\operatorname{sen}\alpha}$$

Suma de Ángulos

$$\beta+\theta+\gamma=180^0$$

$\alpha=\beta+\theta$	$\alpha+\gamma=180^0$

b = Dirección con respecto a V_2
θ = Dirección con respecto a V_1

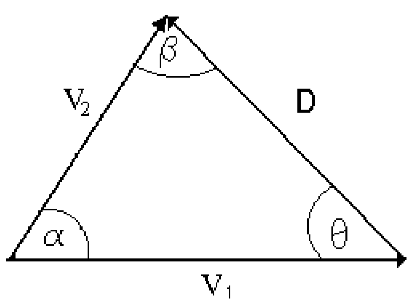
Teorema del Coseno para Vectores

$V_R=\sqrt{V_1^2+V_2^2+2V_1V_2\cos\alpha}$	$\cos\alpha=\left(\frac{V_R^2-V_1^2-V_2^2}{2V_1V_2}\right)$

Teorema del Coseno para Triángulos

$V_R=\sqrt{V_1^2+V_2^2-2V_1V_2\cos\gamma}$	$\cos\gamma=\left(\frac{V_1^2+V_2^2-V_R^2}{2V_1V_2}\right)$
$V_1=\sqrt{V_R^2+V_2^2-2V_RV_2\cos\beta}$	$\cos\beta=\left(\frac{V_R^2+V_2^2-V_1^2}{2V_RV_2}\right)$
$V_2=\sqrt{V_R^2+V_1^2-2V_RV_1\cos\theta}$	$\cos\theta=\left(\frac{V_R^2+V_1^2-V_2^2}{2V_RV_1}\right)$

Diferencia de Vectores



$$D=\sqrt{V_1^2+V_2^2-2V_1V_2\cos\alpha}$$

$$V_1=\sqrt{D^2+V_2^2-2DV_2\cos\beta}$$

$$V_2=\sqrt{D^2+V_1^2-2DV_1\cos\theta}$$

$$\alpha+\beta+\theta=180^0$$

$$\frac{D}{\operatorname{sen}\alpha}=\frac{V_1}{\operatorname{sen}\beta}=\frac{V_2}{\operatorname{sen}\theta}$$

D = Diferencia de Vectores
b = Dirección con respecto a V_2
θ = Dirección con respecto a V_1

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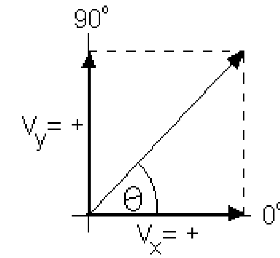
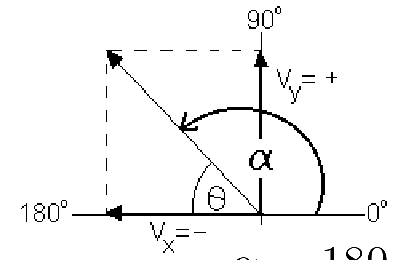
Vectores en el Plano

Primer Cuadrante (IC)

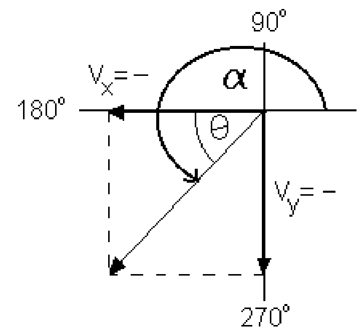


Segundo Cuadrante (IIC)



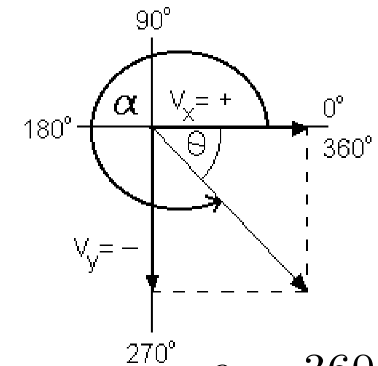
$$\alpha=180-\theta$$

Tercer Cuadrante (IIIC)



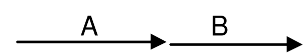
$$\alpha=180+\theta$$

Cuarto Cuadrante (IVC)

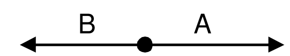


$$\alpha=360-\theta$$

Vectores Colineales

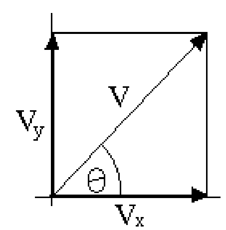


$R=A+B$

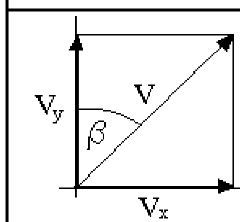


$R=A-B$

Componentes de un Vector



$$V_x=V\cos\theta$$
$$V_y=V\operatorname{sen}\theta$$
$$V=\sqrt{V_x^2+V_y^2}$$
$$\tan\theta=\frac{V_y}{V_x}$$



$$V_x=V\operatorname{sen}\beta$$
$$V_y=V\cos\beta$$
$$V=\sqrt{V_x^2+V_y^2}$$
$$\tan\beta=\frac{V_x}{V_y}$$

Características de un Vector