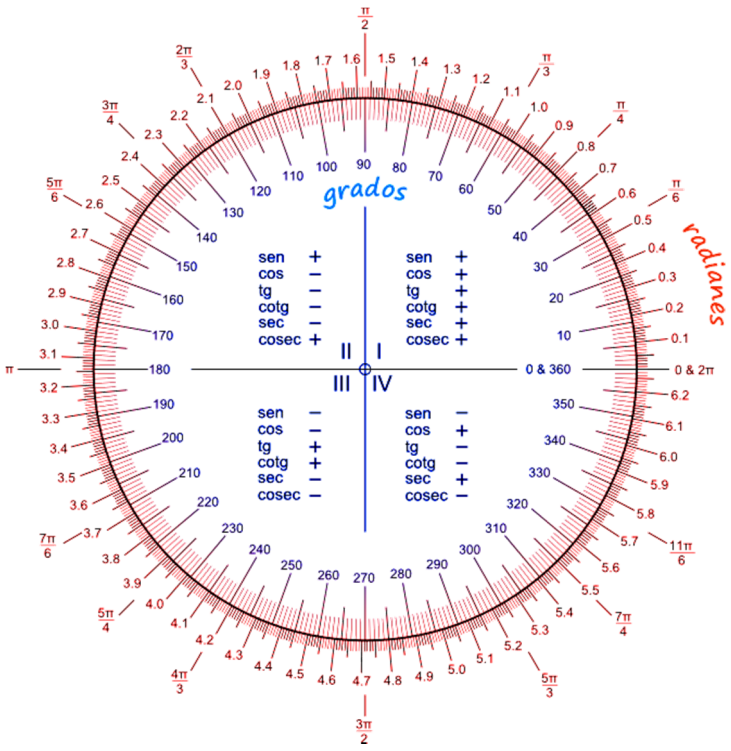
TRIGONOMETRÍA - VALORES

SIGNO DE LAS RAZONES TRIGONOMÉTRICAS



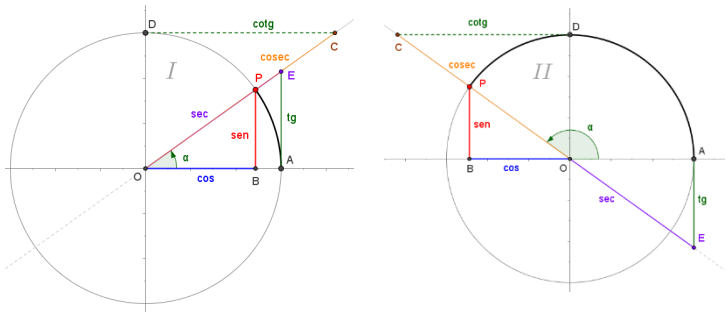
VALORES DE LAS RAZONES TRIGONOMÉTRICAS DE ÁNGULOS NOTABLES

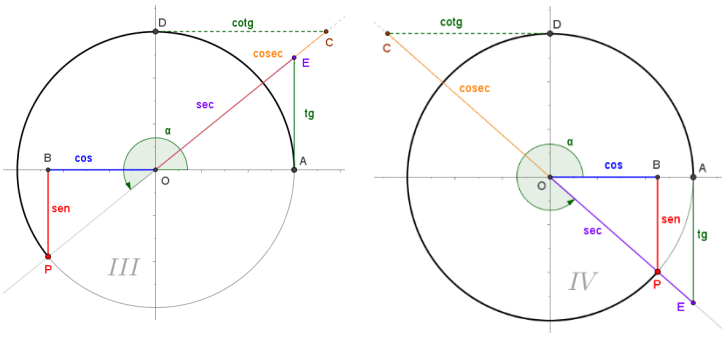
grados	0º	30º	45º	60º	90º	180º	270º	360º
radianes	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
sen	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	0	−1	0
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	−1	0	1
tg	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	*	0	*	0
cotg	*	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	*	0	*
sec	1	$\frac{2\sqrt{3}}{3}$	$\sqrt{2}$	2	*	−1	*	1
cosec	*	2	$\sqrt{2}$	$\frac{2\sqrt{3}}{3}$	1	*	−1	*

LÍNEAS TRIGONOMÉTRICAS

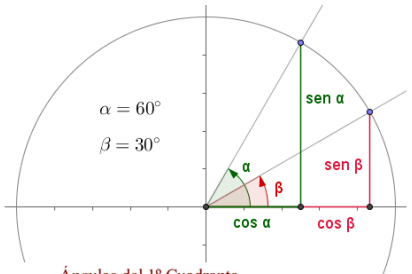
$\text{sen}\,\alpha \to \overline{BP}$ $\quad \cos\alpha \to \overline{OB}$ $\quad \text{tg}\,\alpha \to \overline{AE}$

$\text{cosec}\,\alpha \to \overline{OC}$ $\quad \sec\alpha \to \overline{OE}$ $\quad \text{cotg}\,\alpha \to \overline{DC}$



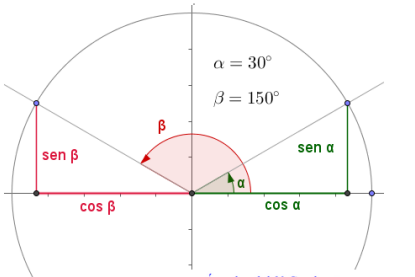


REDUCCIÓN AL PRIMER CUADRANTE



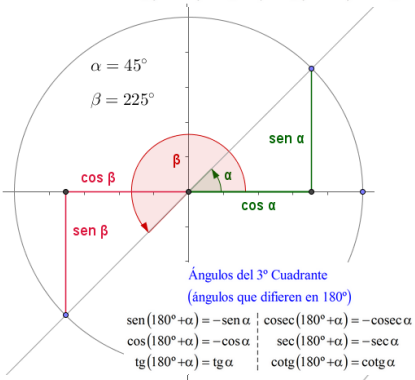
Ángulos del 1º Cuadrante
(ángulos complementarios)

$\text{sen}(90°-\alpha)=\cos\alpha$ | $\text{cosec}(90°-\alpha)=\sec\alpha$
$\cos(90°-\alpha)=\text{sen}\,\alpha$ | $\sec(90°-\alpha)=\text{cosec}\,\alpha$
$\text{tg}(90°-\alpha)=\text{cotg}\,\alpha$ | $\text{cotg}(90°-\alpha)=\text{tg}\,\alpha$



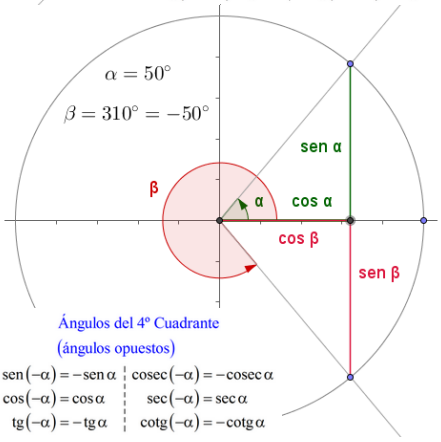
Ángulos del 2º Cuadrante
(ángulos suplementarios)

$\text{sen}(180°-\alpha)=\text{sen}\,\alpha$ | $\text{cosec}(180°-\alpha)=\text{cosec}\,\alpha$
$\cos(180°-\alpha)=-\cos\alpha$ | $\sec(180°-\alpha)=-\sec\alpha$
$\text{tg}(180°-\alpha)=-\text{tg}\,\alpha$ | $\text{cotg}(180°-\alpha)=-\text{cotg}\,\alpha$



Ángulos del 3º Cuadrante
(ángulos que difieren en 180º)

$\text{sen}(180°+\alpha)=-\text{sen}\,\alpha$ | $\text{cosec}(180°+\alpha)=-\text{cosec}\,\alpha$
$\cos(180°+\alpha)=-\cos\alpha$ | $\sec(180°+\alpha)=-\sec\alpha$
$\text{tg}(180°+\alpha)=\text{tg}\,\alpha$ | $\text{cotg}(180°+\alpha)=\text{cotg}\,\alpha$



Ángulos del 4º Cuadrante
(ángulos opuestos)

$\text{sen}(-\alpha)=-\text{sen}\,\alpha$ | $\text{cosec}(-\alpha)=-\text{cosec}\,\alpha$
$\cos(-\alpha)=\cos\alpha$ | $\sec(-\alpha)=\sec\alpha$
$\text{tg}(-\alpha)=-\text{tg}\,\alpha$ | $\text{cotg}(-\alpha)=-\text{cotg}\,\alpha$