FORMULARIO

RAZONES TRIGONOMÉTRICAS

$$\text{sen}\,\alpha = \frac{cateto\ opuesto}{hipotenusa} \qquad \text{cosec}\,\alpha = \frac{hipotenusa}{cateto\ opuesto} = \frac{1}{sen\alpha}$$

$$\cos\alpha = \frac{catento\ contiguo}{lhipotenusa} \qquad \sec\alpha = \frac{hipotenusa}{cateto\ contiguo} = \frac{1}{cos\alpha}$$

$$\text{tg}\,\alpha = \frac{cateto\ opuesto}{cateto\ contiguo} \qquad \text{cotg}\,\alpha = \frac{cateto\ contiguo}{cateto\ opuesto} = \frac{1}{tg\alpha}$$

RELACIONES FUNDAMENTALES

$$\left.\begin{array}{r} sen^2\alpha + cos^2\alpha = 1 \\ tg\alpha = \dfrac{sen\alpha}{cos\alpha} \end{array}\right\} \rightarrow 1 + tg^2\alpha = \frac{1}{cos^2\alpha}$$

RELACIONES ENTRE ÁNGULOS

$\begin{array}{ll} \alpha & :360 \\ \beta & \quad n \end{array} \rightarrow \alpha = 360° \cdot n + \beta$ $\rightarrow \begin{cases} sen\alpha = sen\beta \\ cos\alpha = cos\beta \\ tg\alpha = tg\beta \end{cases}$	$\begin{cases} sen(-\alpha) = -sen\alpha \\ \cos(-\alpha) = cos\alpha \\ tg(-\alpha) = -tg\alpha \end{cases}$
$\begin{cases} sen(90-\alpha) = cos\alpha \\ \cos(90-\alpha) = sen\alpha \\ tg(90-\alpha) = \dfrac{1}{tg\alpha} \end{cases}$	$sen\ (\alpha+\beta) = sen\alpha \cdot cos\beta + sen\beta \cdot cos\alpha$ $cos\ (\alpha+\beta) = cos\alpha \cdot cos\beta - sen\alpha \cdot sen\beta$ $tg\ (\alpha+\beta) = \dfrac{tg\alpha + tg\beta}{1 - tg\alpha \cdot tg\beta}$
$\begin{cases} sen(180-\alpha) = sen\alpha \\ \cos(180-\alpha) = -\,cos\alpha \\ tg(180-\alpha) = -tg\alpha \end{cases}$	$sen\ (\alpha-\beta) = sen\alpha \cdot cos\beta - sen\beta \cdot cos\alpha$ $cos\ (\alpha-\beta) = cos\alpha \cdot cos\beta + sen\alpha \cdot sen\beta$ $tg\ (\alpha-\beta) = \dfrac{tg\alpha - tg\beta}{1 + tg\alpha \cdot tg\beta}$
$\begin{cases} sen(180+\alpha) = -sen\alpha \\ \cos(180+\alpha) = -\,cos\alpha \\ tg(180+\alpha) = tg\alpha \end{cases}$	$sen\ 2\alpha = 2sen\alpha \cdot cos\alpha$ $cos2\alpha = cos^2\alpha - sen^2\alpha$ $tg2\alpha = \dfrac{2tg\alpha}{1 - tg^2\alpha}$

TEOREMA DEL SENO	**TEOREMA DEL COSENO**
$\dfrac{a}{sen\hat{A}} = \dfrac{b}{sen\hat{B}} = \dfrac{c}{sen\hat{C}}$	$a^2 = b^2 + c^2 - 2 \cdot b \cdot c \cdot cosA$ $b^2 = a^2 + c^2 - 2 \cdot a \cdot c \cdot cosB$ $c^2 = a^2 + b^2 - 2 \cdot a \cdot b \cdot cosC$

ECUACIONES: $sen\alpha = sen(180-\alpha); cos\alpha = \cos(360-\alpha)\,;\ tg\alpha = tg(180+\alpha)$