# FORMULARIO GONIOMETRIA

$sen^2\alpha + cos^2\alpha = 1$   relazione fondamentale della goniometria

$tg\alpha = \dfrac{sen\alpha}{cos\alpha} = \dfrac{1}{cotg\alpha}$     con   $\alpha \neq \dfrac{\pi}{2} + K\pi$

$cotg\alpha = \dfrac{cos\alpha}{sen\alpha} = \dfrac{1}{tg\alpha}$     con   $\alpha = K\pi$

$sec\alpha = \dfrac{1}{cos\alpha}$     e   $cosec\alpha = \dfrac{1}{sen\alpha}$

---

## Periodicità

$sen(\alpha + 2K\pi) = sen\alpha$ $\qquad\qquad$ $cos(\alpha + 2\pi K) = cos\alpha$

$\forall x \in \mathbb{Z}$

$tg(\alpha + K\pi) = tg\alpha$ $\qquad\qquad$ $cotg(\alpha + K\pi) = cotg\alpha$

---

## Pari e dispari

$cos(-\alpha) = + cos\alpha$   (pari) $\qquad$ $sen(-\alpha) = -sen\alpha$ $\qquad$ $tg(-\alpha) = -tg\alpha$ $\qquad$ $cotg(-\alpha) = -cotg\alpha$

---

## Codominio

$-1 \leq cos\alpha \leq 1$ $\qquad$ $-1 \leq sen\alpha \leq 1$ $\qquad$ $-\infty \leq tg\alpha \leq +\infty$ $\qquad$ $-\infty \leq cotg\alpha \leq +\infty$

---

# TABELLA DEI VALORI

| | $0$ | $\dfrac{\pi}{6}=30°$ | $\dfrac{\pi}{4}=45°$ | $\dfrac{\pi}{3}=60°$ | $\dfrac{\pi}{2}=90°$ | $\pi=180°$ | $\dfrac{3}{2}\pi=270°$ | $2\pi=360°$ |
|---|---|---|---|---|---|---|---|---|
| $sen\,\alpha$ | $0$ | $\dfrac{1}{2}$ | $\dfrac{\sqrt{2}}{2}$ | $\dfrac{\sqrt{3}}{2}$ | $1$ | $0$ | $-1$ | $0$ |
| $cos\alpha$ | $1$ | $\dfrac{\sqrt{3}}{2}$ | $\dfrac{\sqrt{2}}{2}$ | $\dfrac{1}{2}$ | $0$ | $-1$ | $0$ | $1$ |
| $tg\,\alpha$ | $0$ | $\dfrac{\sqrt{3}}{3}$ | $1$ | $\sqrt{3}$ | $\infty$ | $0$ | $\infty$ | $0$ |
| $cotg\,\alpha$ | $100$ | $\sqrt{3}$ | $1$ | $\dfrac{\sqrt{3}}{3}$ | $0$ | $\infty$ | $0$ | $\infty$ |