

ESPRESSIONI GONIOMETRICHE

$$\frac{-2 \operatorname{sen}^2(180^\circ - \alpha) + \cos^2(180^\circ - \alpha) + 2}{\operatorname{tg}(180^\circ - \alpha) \cdot \operatorname{sen}(90^\circ - \alpha) + 1}$$

$$\frac{-2 \operatorname{sen}^2 \alpha + \cos^2 \alpha + 2}{-\operatorname{tg} \alpha \cdot \cos \alpha + 1}$$



$$\frac{-2 \cancel{\operatorname{sen}^2 \alpha} + \cos^2 \alpha + 2 \cos^2 \alpha + 2 \cancel{\operatorname{sen}^2 \alpha}}{-\operatorname{sen} \alpha + 1}$$

$$\frac{3 \cos^2 \alpha}{1 - \operatorname{sen} \alpha} = \frac{3(1 - \operatorname{sen}^2 \alpha)}{1 - \operatorname{sen} \alpha}$$

$$= \frac{3(1 - \cancel{\operatorname{sen} \alpha})(1 + \operatorname{sen} \alpha)}{1 - \cancel{\operatorname{sen} \alpha}}$$

$$= \boxed{3(1 + \operatorname{sen} \alpha)}$$

$$\operatorname{tg}(90^\circ - \alpha) \cdot \operatorname{tg} \alpha - \frac{\operatorname{sen}(180^\circ + \alpha)}{\operatorname{cos}(180^\circ - \alpha)} + \operatorname{ctg}(90^\circ - \alpha)$$

$$\frac{\operatorname{cos} \alpha}{\operatorname{sen} \alpha} \cdot \frac{\operatorname{sen} \alpha}{\operatorname{cos} \alpha} - \frac{-\operatorname{sen} \alpha}{-\operatorname{cos} \alpha} + \frac{\operatorname{sen} \alpha}{\operatorname{cos} \alpha}$$

$$1 - \cancel{\operatorname{tg} \alpha} + \cancel{\operatorname{tg} \alpha} = \boxed{1}$$

$$\sin(\alpha - 2\pi) \cdot \operatorname{ctg}(-\alpha) + \sin\left(\alpha + \frac{3\pi}{2}\right) \cdot \cos(\alpha + 5\pi) +$$

$$+ \sin^2(6\pi - \alpha)$$

$$\begin{aligned} & -\sin(2\pi - \alpha) \\ & -\sin(-\alpha) \\ & \sin \alpha \end{aligned}$$

$$\cancel{\sin \alpha} \cdot \frac{\cos(-\alpha)}{\cancel{\sin(-\alpha)}} + (-\cos \alpha) \cdot (-\cos \alpha) +$$

$$+ \sin^2 \alpha$$

$$-\cos \alpha + \underbrace{\cos^2 \alpha + \sin^2 \alpha}_1$$

$1 - \cos \alpha$