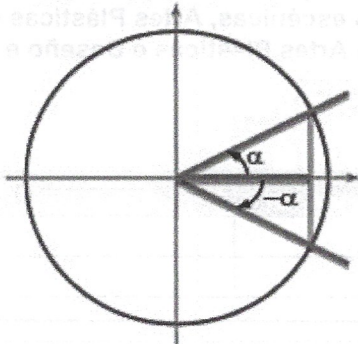


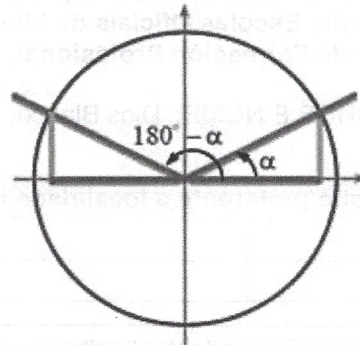
REDUCCIÓN AL PRIMER CUADRANTE

Ángulos opuestos: α y $-\alpha$



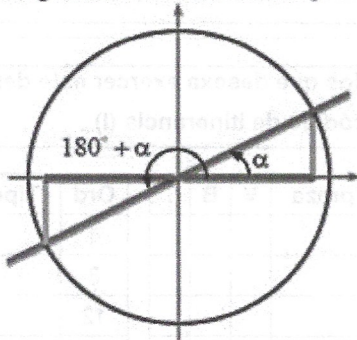
$$\begin{aligned}\operatorname{sen}(-\alpha) &= -\operatorname{sen} \alpha \\ \operatorname{cos}(-\alpha) &= \operatorname{cos} \alpha \\ \operatorname{tg}(-\alpha) &= \frac{\operatorname{sen}(-\alpha)}{\operatorname{cos}(-\alpha)} = \frac{-\operatorname{sen} \alpha}{\operatorname{cos} \alpha} = -\operatorname{tg} \alpha\end{aligned}$$

Ángulos suplementarios: α y $180^\circ - \alpha$



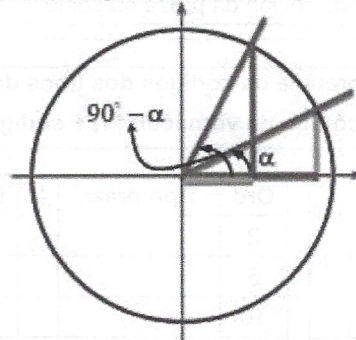
$$\begin{aligned}\operatorname{sen}(180^\circ - \alpha) &= \operatorname{sen} \alpha \\ \operatorname{cos}(180^\circ - \alpha) &= -\operatorname{cos} \alpha \\ \operatorname{tg}(180^\circ - \alpha) &= \frac{\operatorname{sen}(180^\circ - \alpha)}{\operatorname{cos}(180^\circ - \alpha)} = \frac{\operatorname{sen} \alpha}{-\operatorname{cos} \alpha} = -\operatorname{tg} \alpha\end{aligned}$$

Ángulos que difieren en 180° : α y $180^\circ + \alpha$



$$\begin{aligned}\operatorname{sen}(180^\circ + \alpha) &= -\operatorname{sen} \alpha \\ \operatorname{cos}(180^\circ + \alpha) &= -\operatorname{cos} \alpha \\ \operatorname{tg}(180^\circ + \alpha) &= \frac{\operatorname{sen}(180^\circ + \alpha)}{\operatorname{cos}(180^\circ + \alpha)} = \frac{-\operatorname{sen} \alpha}{-\operatorname{cos} \alpha} = \operatorname{tg} \alpha\end{aligned}$$

Ángulos complementarios: α y $90^\circ - \alpha$



$$\begin{aligned}\operatorname{sen}(90^\circ - \alpha) &= \operatorname{cos} \alpha \\ \operatorname{cos}(90^\circ - \alpha) &= \operatorname{sen} \alpha \\ \operatorname{tg}(90^\circ - \alpha) &= \frac{\operatorname{sen}(90^\circ - \alpha)}{\operatorname{cos}(90^\circ - \alpha)} = \frac{\operatorname{cos} \alpha}{\operatorname{sen} \alpha} = \frac{1}{\operatorname{tg} \alpha}\end{aligned}$$