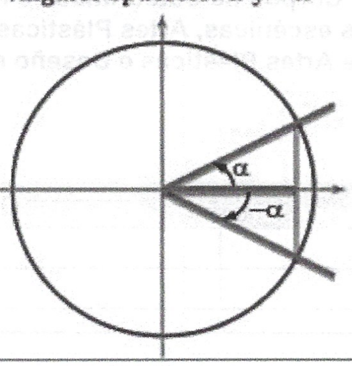
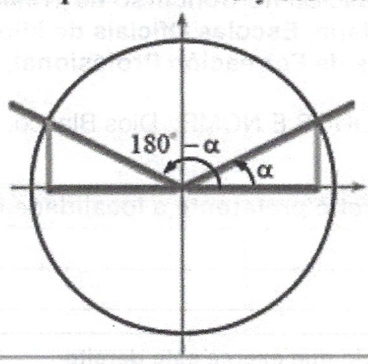
REDUCCIÓN AL PRIMER CUADRANTE

Ángulos opuestos: α y −α



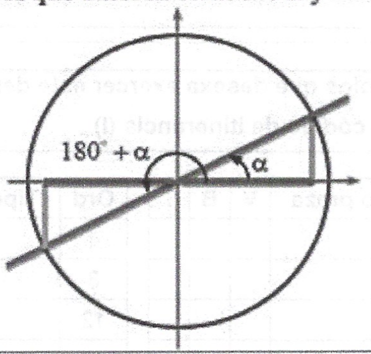
$$\mathrm{sen}(-\alpha) = -\mathrm{sen}\,\alpha$$
$$\cos(-\alpha) = \cos\alpha$$
$$\mathrm{tg}(-\alpha) = \frac{\mathrm{sen}(-\alpha)}{\cos(-\alpha)} = \frac{-\mathrm{sen}\,\alpha}{\cos\alpha} = -\mathrm{tg}\,\alpha$$

Ángulos suplementarios: α y 180°−α



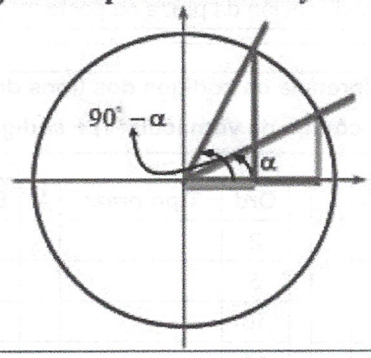
$$\mathrm{sen}(180^\circ - \alpha) = \mathrm{sen}\,\alpha$$
$$\cos(180^\circ - \alpha) = -\cos\alpha$$
$$\mathrm{tg}(180^\circ - \alpha) = \frac{\mathrm{sen}(180^\circ - \alpha)}{\cos(180^\circ - \alpha)} = \frac{\mathrm{sen}\,\alpha}{-\cos\alpha} = -\mathrm{tg}\,\alpha$$

Ángulos que difieren en 180° : α y 180° + α



$$\mathrm{sen}(180^\circ + \alpha) = -\mathrm{sen}\,\alpha$$
$$\cos(180^\circ + \alpha) = -\cos\alpha$$
$$\mathrm{tg}(180^\circ + \alpha) = \frac{\mathrm{sen}(180^\circ + \alpha)}{\cos(180^\circ + \alpha)} = \frac{-\mathrm{sen}\,\alpha}{-\cos\alpha} = \mathrm{tg}\,\alpha$$

Ángulos complementarios: α y 90° − α



$$\mathrm{sen}(90^\circ - \alpha) = \cos\alpha$$
$$\cos(90^\circ - \alpha) = \mathrm{sen}\,\alpha$$
$$\mathrm{tg}(90^\circ - \alpha) = \frac{\mathrm{sen}(90^\circ - \alpha)}{\cos(90^\circ - \alpha)} = \frac{\cos\alpha}{\mathrm{sen}\,\alpha} = \frac{1}{\mathrm{tg}\,\alpha}$$