

Arco soma e Arco diferença:

$$\begin{aligned}\cos (a + b) &= \cos a \cdot \cos b - \operatorname{sen} a \cdot \operatorname{sen} b \\ \cos (a - b) &= \cos a \cdot \cos b + \operatorname{sen} a \cdot \operatorname{sen} b\end{aligned}$$

$$\begin{aligned}\operatorname{sen} (a + b) &= \operatorname{sen} a \cdot \cos b + \operatorname{sen} b \cdot \cos a \\ \operatorname{sen} (a - b) &= \operatorname{sen} a \cdot \cos b - \operatorname{sen} b \cdot \cos a\end{aligned}$$

$$\operatorname{tg} (a + b) = \frac{\operatorname{tga} + \operatorname{tgb}}{1 - \operatorname{tga} \cdot \operatorname{tgb}}$$

$$\operatorname{tg} (a - b) = \frac{\operatorname{tga} - \operatorname{tgb}}{1 + \operatorname{tga} \cdot \operatorname{tgb}}$$

Exercício Resolvido

$$\operatorname{sen} (105^\circ)$$

$$\operatorname{sen} (45^\circ + 60^\circ) = \operatorname{sen} 45^\circ \cdot \cos 60^\circ + \operatorname{sen} 60^\circ \cdot \cos 45^\circ$$

$$\operatorname{sen} (105^\circ) = \frac{\sqrt{2} + \sqrt{6}}{4}$$