

Arco Duplo

$$\text{sen } (2a) = 2 \text{ sen } a \cdot \text{cos } a$$

$$\text{cos } (2a) = \text{cos}^2 a - \text{sen}^2 a$$

$$\text{tg } (2a) = \frac{2\text{tga}}{1 - \text{tg}^2 a}$$

Exercício Resolvido

Calcule $\text{tg} 2y$, sabendo que $\text{sen} y = -3/4$, $\pi < x < 3\pi/2$

$$\text{tg } (2y) = \frac{2\text{tgy}}{1 - \text{tg}^2 y} \longrightarrow \text{Tgy} = \frac{3\sqrt{7}}{7} \longrightarrow \begin{cases} (-3/4)^2 + \text{cos}^2 y = 1 \\ \text{cos} y = -\sqrt{7}/4 \end{cases}$$

$$\text{tg } (2y) = -3\sqrt{7}$$