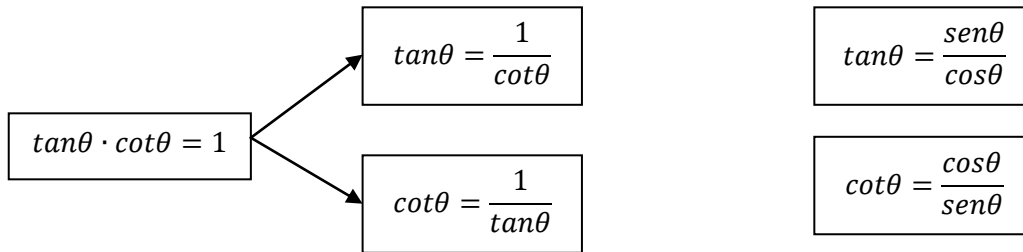
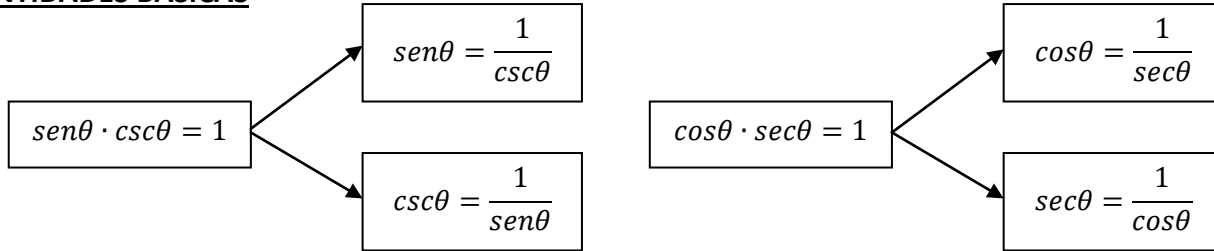
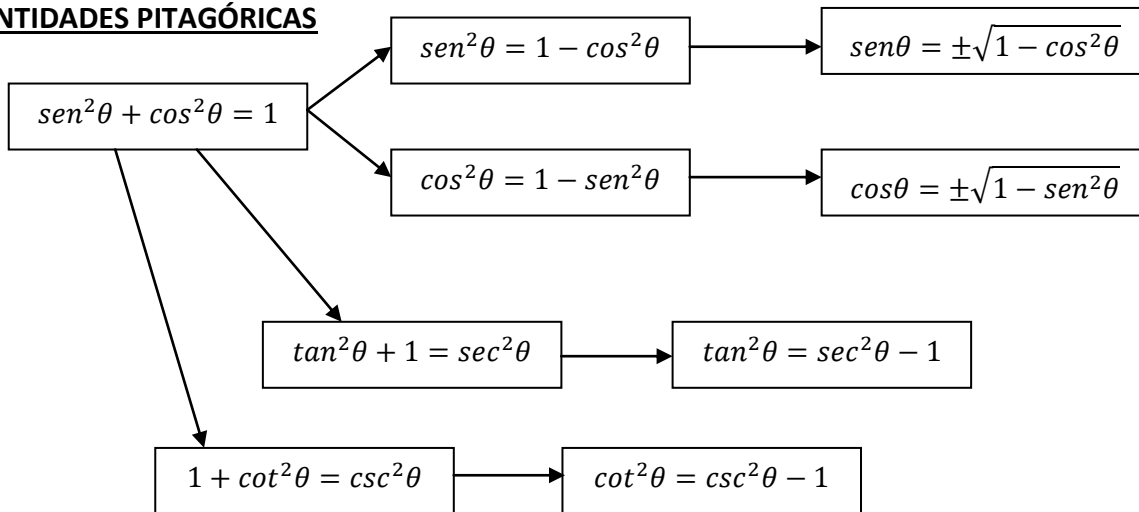


RESUMEN DE LAS PRINCIPALES FÓRMULAS E IDENTIDADES TRIGONOMÉTRICAS

IDENTIDADES BÁSICAS



IDENTIDADES PITAGÓRICAS



IDENTIDADES PAR E IMPAR

Funciones Pares: $\text{cos}(-\theta) = \text{cos}\theta$ $\text{sec}(-\theta) = \text{sec}\theta$

Funciones Impares: $\text{sen}(-\theta) = -\text{sen}\theta$ $\text{csc}(-\theta) = -\text{csc}\theta$ $\text{tan}(-\theta) = -\text{tan}\theta$ $\text{cot}(-\theta) = -\text{cot}\theta$

FÓRMULAS PARA FUNCIONES TRIGONOMÉTRICAS DE SUMA Y RESTA DE ÁNGULOS

$$\operatorname{sen}(\alpha \pm \beta) = \operatorname{sen}\alpha \cdot \cos\beta \pm \operatorname{sen}\beta \cdot \cos\alpha$$

$$\cos(\alpha \pm \beta) = \cos\alpha \cdot \cos\beta \mp \operatorname{sen}\alpha \cdot \operatorname{sen}\beta$$

$$\tan(\alpha \pm \beta) = \frac{\tan\alpha \pm \tan\beta}{1 \mp \tan\alpha \cdot \tan\beta}$$

FÓRMULAS PARA ÁNGULOS DOBLES

$$\operatorname{sen}(2\theta) = 2 \cdot \operatorname{sen}\theta \cdot \cos\theta$$

$$\cos(2\theta) = \begin{cases} \cos^2\theta - \operatorname{sen}^2\theta \\ 1 - 2\operatorname{sen}^2\theta \\ 2\cos^2\theta - 1 \end{cases}$$

$$\tan(2\theta) = \frac{2 \cdot \tan\theta}{1 - \tan^2\theta}$$

FÓRMULAS PARA ÁNGULOS MEDIOS

$$\operatorname{sen}\left(\frac{\theta}{2}\right) = \pm \sqrt{\frac{1 - \cos\theta}{2}}$$

$$\cos\left(\frac{\theta}{2}\right) = \pm \sqrt{\frac{1 + \cos\theta}{2}}$$

$$\tan\left(\frac{\theta}{2}\right) = \pm \sqrt{\frac{1 - \cos\theta}{1 + \cos\theta}} = \frac{1 - \cos\theta}{\operatorname{sen}\theta} = \frac{\operatorname{sen}\theta}{1 + \cos\theta}$$

IDENTIDADES PRODUCTO-SUMA

$$\operatorname{sen}\alpha \cdot \operatorname{sen}\beta = \frac{1}{2}[\cos(\alpha - \beta) - \cos(\alpha + \beta)]$$

$$\cos\alpha \cdot \cos\beta = \frac{1}{2}[\cos(\alpha - \beta) + \cos(\alpha + \beta)]$$

$$\operatorname{sen}\alpha \cdot \cos\beta = \frac{1}{2}[\operatorname{sen}(\alpha + \beta) + \operatorname{sen}(\alpha - \beta)]$$

IDENTIDADES SUMA-PRODUCTO

$$\operatorname{sen}\alpha + \operatorname{sen}\beta = 2 \cdot \operatorname{sen}\left(\frac{\alpha + \beta}{2}\right) \cdot \cos\left(\frac{\alpha - \beta}{2}\right)$$

$$\operatorname{sen}\alpha - \operatorname{sen}\beta = 2 \cdot \operatorname{sen}\left(\frac{\alpha - \beta}{2}\right) \cdot \cos\left(\frac{\alpha + \beta}{2}\right)$$

$$\cos\alpha + \cos\beta = 2 \cdot \cos\left(\frac{\alpha + \beta}{2}\right) \cdot \cos\left(\frac{\alpha - \beta}{2}\right)$$

$$\cos\alpha - \cos\beta = -2 \cdot \operatorname{sen}\left(\frac{\alpha + \beta}{2}\right) \cdot \operatorname{sen}\left(\frac{\alpha - \beta}{2}\right)$$