

Básicas y Suma/Resta

$$\sin \theta = \frac{1}{\csc \theta}$$

$$\cos \theta = \frac{1}{\sec \theta}$$

$$\csc \theta = \frac{1}{\sin \theta}$$

$$\sec \theta = \frac{1}{\cos \theta}$$

$$\cot \theta = \frac{\cos \theta}{\sin \theta} = \frac{1}{\tan \theta}$$

$$\tan \theta = \frac{\sin \theta}{\cos \theta} = \frac{1}{\cot \theta}$$

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$1 + \tan^2 \theta = \sec^2 \theta$$

$$1 + \cot^2 \theta = \csc^2 \theta$$

$$\sin(\theta \pm \beta) = \sin \theta \cos \beta \pm \sin \beta \cos \theta$$

$$\cos(\theta \pm \beta) = \cos \theta \cos \beta \mp \sin \theta \sin \beta$$

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

Ángulo Doble y Medio

$$\sin(2\theta) = 2 \sin \theta \cos \theta$$

$$\cos(2\theta) = \cos^2 \theta - \sin^2 \theta$$

$$\cos(2\theta) = 1 - 2 \sin^2 \theta$$

$$\cos(2\theta) = 2 \cos^2 \theta - 1$$

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

$$\sin \frac{\theta}{2} = \pm \sqrt{\frac{1 - \cos \theta}{2}}$$

$$\cos \frac{\theta}{2} = \pm \sqrt{\frac{1 + \cos \theta}{2}}$$

$$\tan \frac{\theta}{2} = \pm \sqrt{\frac{1 - \cos \theta}{1 + \cos \theta}}$$

$$\tan \frac{\theta}{2} = \frac{1 - \cos \theta}{\sin \theta} = \frac{\sin \theta}{1 + \cos \theta}$$

Par, impar

$$\sin(-\theta) = -\sin \theta$$

$$\cos(-\theta) = \cos \theta$$

Suma a Producto; Producto a Suma

$$\sin \theta + \sin \beta = 2 \sin \left(\frac{\theta + \beta}{2} \right) \cos \left(\frac{\theta - \beta}{2} \right)$$

$$\sin \theta - \sin \beta = 2 \sin \left(\frac{\theta - \beta}{2} \right) \cos \left(\frac{\theta + \beta}{2} \right)$$

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

$$\cos \theta - \cos \beta = -2 \sin \left(\frac{\theta + \beta}{2} \right) \sin \left(\frac{\theta - \beta}{2} \right)$$

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

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

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

Suplemento, complemento

$$\sin(\pi \pm \theta) = \mp \sin \theta$$

$$\cos(\pi \pm \theta) = -\cos \theta$$

$$\sin(\pi/2 - \theta) = \cos \theta$$

$$\cos(\pi/2 - \theta) = \sin \theta$$