Taller guía Identidades trigonométricas

actividad

PITAGÓRICAS	COCIENTE	RECÍPROCAS	AUXILIARES
$\operatorname{sen}^2\alpha + \cos^2\alpha = 1$	$\tan\alpha = \frac{\operatorname{sen}\alpha}{\cos\alpha}$	$\csc\alpha = \frac{1}{\operatorname{sen}\alpha}$	$\tan\alpha + \cot\alpha = \sec\alpha \csc\alpha$
$\sec^2\alpha - \tan^2\alpha = 1$	$\cot\alpha = \frac{\cos\alpha}{\operatorname{sen}\alpha}$	$\sec\alpha = \frac{1}{\cos\alpha}$	$\sec^2\alpha + \csc^2\alpha = \sec^2\alpha \csc^2\alpha$ $\operatorname{sen}^4\alpha + \cos^4\alpha = 1 - 2\operatorname{sen}^2\alpha\cos^2\alpha$
$\csc^2\alpha - \cot^2\alpha = 1$		$\cot\alpha = \frac{1}{\tan\alpha}$	$\operatorname{sen}^6\alpha + \cos^6\alpha = 1 - 3\operatorname{sen}^2\alpha\cos^2\alpha$ $(1 \pm \operatorname{sen}\alpha \pm \cos\alpha)^2 = 2(1 \pm \operatorname{sen}\alpha)(1 \pm \cos\alpha)$

1. Demostrar que:

$$\frac{(senx + \cos x)^2 - 1}{\cot x - senx\cos x} = 2\tan^2 x$$

2. Reducir la expresión:

$$k = \frac{\sec x + \csc x}{1 + \tan x}$$

3. Si se cumple que:

$$\sqrt{\frac{1+senx}{1-\cos x}} = \lambda[\cot x + \csc x + 1]$$

Calcule el valor de λ

4. Sabiendo que se cumple la condición $\sqrt{7}\cos\theta + 1 = \tan^2\theta$ obtenga el valor de:

$$\tan^6\theta - \tan^4\theta - \tan^2\theta = 6$$

5. Simplificar:

$$M = \frac{\sec^2 x + 2\tan x}{\tan x + 1} + \frac{\csc^2 x - 2\cot x}{\cot x - 1}$$

6. Si $sen^2\alpha + sen\alpha = 1$ Entonces determinar:

$$M = \cos^4 \alpha + \cos^2 \alpha$$

7. Si $sen^3 x + senx = m$

$\cos^3 x + \cos x = n$ Calcular: $M = m\csc x + n\sec x$

8. Si $\tan\alpha - sen\alpha = 1$ calcular:

$$W = \sec\alpha * \csc\alpha - sen\alpha + \cos\alpha$$

9. Indique el equivalente de la expresión:

$$P = (sen^2 x - \cos^2 x)^2 + (tgx + ctgx)^{-2}$$

10. Sabiendo que: $2\sec^2 \beta - 4\csc^2 \beta = 1$

Calcular: $E = \cos^2 \beta + 2\tan^2 \beta$