

Verifying Trig Identities: Part 2

Example: Show the following is true for all permissible values of x .

$$\frac{1 - \cos^2(2x)}{2 \cos^2 x} = 2 \sin^2 x$$

Example: Show the following is true for all permissible values

$$\frac{\csc x + 1}{\cos x} = \frac{\cot x}{1 - \sin x}$$

Practice: Show the following is true for all permissible values of x

$$\frac{-\cos^3 x + \sin x \cos x - \cos x}{0.5 \sin 2x - \cos x} = \sin x + 2$$

Practice: Show the following is true for all permissible values of x

$$\frac{1}{1 + \sec x} - 1 = \frac{\cos x - 1}{\sin^2 x}$$

Practice: Show the following is true for all permissible values of x

$$\sec 2x = \frac{\csc^2 x}{\csc^2 x - 2}$$

Practice: Show the following is true for all permissible values of x

$$\tan 2x = \frac{2 \tan x}{1 - \tan^2 x}$$

Practice: Show the following is true for all permissible values of x

$$4 \sin^3 x = 3 \sin x - \sin 3x$$

Practice: Show the following is true for all permissible values of x

$$4 \cos^2 \left(\frac{x}{2} \right) (1 + \cot^2 x) = \csc^2 \left(\frac{x}{2} \right)$$