how to solve this identity step by step:

cosx +1/ tan^2x = cosx/secx -1

## Solution

We can prove, that it is not identity. For this let's consider value of x:

$$x_1 = \frac{\pi}{4};$$

For $x_1$ the left side is:

$$\cos(\mathrm{x}) + \frac{1}{tan^2 x} = \frac{\sqrt{2}}{2} + \frac{1}{1} = \frac{2+\sqrt{2}}{2}$$

The right side is:

$$\frac{cox(x)}{\sec(x)} - 1 = \frac{\frac{\sqrt{2}}{2}}{\frac{2}{\sqrt{2}}} - 1 = \frac{1}{2} - 1 = -\frac{1}{2}$$

Obviously:

$$\frac{2+\sqrt{2}}{2} \neq -\frac{1}{2}$$

This is not the identity.

**NB: It's the equation, solving which is not easy at all. And the solution lies in complex plane**