

Verifying Identities Practice – verify the following identities

1. $2 - \sec^2 \alpha = 1 - \tan^2 \alpha$

2. $\frac{\sec \theta - 1}{1 - \cos \theta} = \sec \theta$

3. $\sec x - \cos x = \sin x \tan x$

4. $\cos x + \sin x \tan x = \sec x$

$$5. \frac{\tan x + \tan y}{1 - \tan x \tan y} = \frac{\cot x + \cot y}{\cot x \cot y - 1}$$

$$6. \cos(x + y)\cos(x - y) = \cos^2 x - \sin^2 y$$

$$7. \sec 2\theta = \frac{\sec^2 \theta}{2 - \sec^2 \theta}$$

$$8. (\cos x + \sin x)^2 = 1 + \sin 2x$$