

Trigonometric Identities

Verifying Identities 1

Verify the following identities.

1. $\sec y \cos y = 1$

2. $\frac{\sin^2 x}{\tan^2 x} = \cos^2 x$

3. $\cos^2 x - \sin^2 x = 1 - 2\sin^2 x$

4. $2 - \csc^2 x = 1 - \cot^2 x$

5. $\cot^2 x(\sec^2 x - 1) = 1$

6. $\sec^6 x(\sec x \tan x) - \sec^4 x(\sec x \tan x) = \sec^5 x \tan^3 x$

$$7. \frac{\cos(90-x)}{\sin(90-x)} = \tan x$$

$$8. (1 + \sin y)[1 + \sin(-y)] = \cos^2 y$$

$$9. \frac{1 + \csc(-x)}{\cos(-x) + \cot(-x)} = \sec x$$

$$10. \frac{\tan x + \cot y}{\tan x \cot y} = \tan y + \cot x$$