

7.1 Worksheet B | Verifying Trigonometric Identities

Verify the trigonometric identity. Show your work. Your steps should be clear and organized.

1. $\tan \theta + \cot \theta = \csc \theta \cdot \sec(-\theta)$

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

3. $\frac{\cot^2 \theta}{\csc \theta} = \csc \theta - \sin \theta$

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

$$5. \frac{\sin x}{\tan x} + \frac{\cos x}{\cot x} = \sin x + \cos x$$

$$6. 1 - \frac{\sin^2 x}{1 + \cos x} = \cos(-x)$$

$$7. \sec^2 x \cdot \csc^2 x = \sec^2 x + \csc^2 x$$

$$8. \tan x [\csc x + \sin(-x)] = \cos x$$