

Worksheet 7.2E Verify each identity.

$$1) \frac{\sin x}{\cos^2 x} = \frac{\sec x}{\cot x}$$

$$2) \frac{\sin x}{\sec^2 x} = \frac{\cos^2 x}{\csc x}$$

$$3) \frac{\tan^2 x}{\cos^2 x} = \frac{\sec^2 x}{\cot^2 x}$$

$$4) \csc x + \cot x = \frac{\cos x + 1}{\sin x}$$

$$5) \sin x + \csc x = \frac{\sin^2 x + 1}{\sin x}$$

$$6) \csc^2 x + \tan^2 x = \cot^2 x + \sec^2 x$$

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$$7) \frac{\sec^2 x}{\sin^2 x} = \frac{\csc^2 x}{\cos^2 x}$$

$$8) -\sec x \sin x = -\tan x$$

$$9) \frac{1}{\csc x \cdot (\csc x + 1)} = \frac{\sin^2 x}{\sin x + 1}$$

$$10) \sec x \cot^2 x + 1 = \frac{\sin^2 x + \cos x}{\sin^2 x}$$