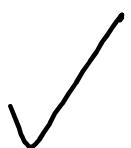
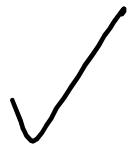


# C12 - 6.3 - Proofs Pythag Reciprocal Fractions Notes

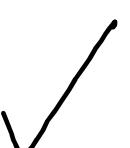
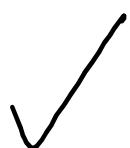
$$\frac{\tan x \csc x}{\sec x} =$$

$\left(\frac{\sin x}{\cos x}\right) \left(\frac{1}{\sin x}\right)$ $\frac{1}{\cos x}$ $\sec x$		$\frac{\cos x}{\sin x}$ $\frac{(\sin x)}{(\frac{1}{\sin x})}$ $\frac{\cos x \times \sin x}{\sin x \times 1}$ $\cos x$	
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$$1 + \tan^2 x = \sec^2 x$$

$1 + \frac{\sin^2 x}{\cos^2 x}$ $\frac{\cos^2 x}{\cos^2 x} + \frac{\sin^2 x}{\cos^2 x}$ $\frac{\cos^2 x + \sin^2 x}{\cos^2 x}$ $\frac{1}{\cos^2 x}$		$\frac{1}{\cos^2 x}$ $\frac{\cos^2 x}{\sin x} + \sin x \times \frac{\sin x}{\sin x}$ $\frac{\cos^2 x}{\sin x} + \frac{\sin^2 x}{\sin x}$ $\frac{\cos^2 x + \sin^2 x}{\sin x}$ $\frac{1}{\sin x}$	
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$$\cot x + \tan x = \csc x \sec x$$

$\frac{\cos x}{\sin x} + \frac{\sin x}{\cos x}$ $\frac{\cos^2 x + \sin^2 x}{\sin x \cos x}$ $\frac{1}{\sin x \cos x}$ $\left(\frac{1}{\sin x}\right) \left(\frac{1}{\cos x}\right)$ $\csc x \sec x$		$\csc x \sec x$ $\left(\frac{1 + \cos x}{1 + \frac{1}{\cos x}}\right)$ $\frac{(1 + \cos x)}{\left(\frac{\cos x + 1}{\cos x}\right)}$ $(1 + \cos x) \times \frac{\cos x}{\cos x + 1}$ $\frac{\cos x(1 + \cos x)}{\cos x + 1}$ $\cos x$	
---	---	--	---