

C12 - 6.3 - Proofs Pythag Reciprocal Fractions HW

Prove the left hand side equals the right hand side

$$\begin{array}{|c|c|} \hline \sin x \sec x & \tan x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \cos x \tan x & \sin x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \sin x \csc x & 1 \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \cos x \csc x & \cot x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \cos x \sec x & 1 \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \tan x \csc x & \sec x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \cot x \sec x & \csc x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \sin x \cot x & \cos x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \cos x \cot x & \frac{\cos^2 x}{\sin x} \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \cot x \cot x & \cot^2 x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \cos x \sin x & \sin x \cos x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \sin^2 x & \sin x \sin x \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \tan x \sec x & \frac{\sin x}{\cos^2 x} \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \tan x \cot x & 1 \\ \hline \end{array}$$

Make one up!

$$\begin{array}{|c|c|} \hline & \\ \hline \end{array}$$

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Prove the left hand side equals the right hand side

$$\frac{\sin x}{\tan x} \quad | \quad \cos x$$

$$\frac{\cos x}{\sec x} \quad | \quad \cos^2 x$$

$$\frac{1}{\cos x} \quad | \quad \sec x$$

$$\frac{\tan x}{\sin x} \quad | \quad \sec x$$

$$\frac{\tan x}{\cos x} \quad | \quad \frac{\sin x}{\cos^2 x}$$

$$\frac{\sin x}{\sin x} \quad | \quad 1$$

$$\frac{\sin x}{\cot x} \quad | \quad \frac{\sin^2 x}{\cos x}$$

$$\frac{\sin x}{\cos x} \quad | \quad \tan x$$

$$\frac{\cos x}{\cot x} \quad | \quad \sin x$$

$$\frac{\sec x}{\tan x} \quad | \quad \csc x$$

$$\frac{\tan x}{\csc x} \quad | \quad \sec x$$

$$\frac{\csc x}{\cot x} \quad | \quad \cos x$$

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Prove the left hand side equals the right hand side

$$\cot x + \csc x \quad \left| \begin{array}{c} \frac{\cos x + 1}{\sin x} \\ \hline \end{array} \right.$$

$$\frac{1 + \sin x}{\cos x} \quad \left| \begin{array}{c} \sec x + \tan x \\ \hline \end{array} \right.$$

$$\sin x + \csc x \quad \left| \begin{array}{c} \frac{\sin^2 x + 1}{\sin x} \\ \hline \end{array} \right.$$

$$\sin x + \sec x \quad \left| \begin{array}{c} \frac{\sin x \cos x + 1}{\cos x} \\ \hline \end{array} \right.$$

$$2\sin x - \frac{1}{\csc x} \quad \left| \begin{array}{c} \sin x \\ \hline \end{array} \right.$$

$$\sec x - \tan x \sin x \quad \left| \begin{array}{c} \cos x \\ \hline \end{array} \right.$$

C12 - 6.3 - Proofs Pythag Reciprocal Fractions HW

Prove the left hand side equals the right hand side

$$\frac{\cos x + \sin x \tan x}{\sec x}$$

$$\frac{\csc x \cos^2 x + \sin x}{\csc x}$$

$$\frac{\cos x + \cot x}{\frac{1 + \sin x}{\cot x}}$$

$$\frac{\csc^2 x - \frac{\cot x}{\sin x}}{\frac{1}{1 + \cos x}}$$

$$\frac{1}{\frac{(1 - \sin^2 x)}{\cos^2 x}}$$

$$\frac{\cot^2 x}{\frac{\cos^2 x}{1 - \cos^2 x}}$$

C12 - 6.3 - Proofs Pythag Reciprocal Fractions HW

Prove the left hand side equals the right hand side

$$\frac{1}{\sec^2 x} \quad | \quad \sin^2 x$$

$$\frac{1}{\cos^2 x} \quad | \quad -\tan^2 x$$

$$\frac{1}{\tan^2 x} \quad | \quad \csc^2 x$$

$$\frac{1}{\csc^2 x} \quad | \quad 1 + \cos^2 x$$

$$\csc x \cos^2 x + \sin x \quad | \quad \csc x$$

$$\sec x \sin^2 x + \cos x \quad | \quad \sec x$$

C12 - 6.3 - Proofs Add Subtract Foil Factor Pythag WS

Prove the left hand side equals the right hand side

$$\frac{(\csc x + \cot x)(\csc x - \cot x)}{\sin^2 x} \quad | \quad \csc^2 x$$

$$\frac{\cos x}{1 + \sin x} + \frac{1 + \sin x}{\cos x} \quad | \quad 2\sec x$$

$$\frac{1}{1 - \cos x} + \frac{1}{1 + \cos x} \quad | \quad 2 \csc^2 x$$

$$\frac{\cos x}{1 - \cos x} - \frac{\cos x}{1 + \cos x} \quad | \quad 2 \cot^2 x$$

$$\frac{1}{1 - \cos x} - \frac{1}{1 + \cos x} \quad | \quad 2\cot x \csc x$$

$$(\sin x - \cos x)^2 \quad | \quad 1 - 2 \sin x \cos x$$

C12 - 6.3 - Proofs Add Subtract Foil Factor Pythag WS

Prove the left hand side equals the right hand side

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

$$\frac{3 - \sin^2 x}{2 + \cos^2 x} = \frac{\sin x - \csc x}{\frac{-\cos^2 x}{\sin x}}$$

$$\frac{1 + \frac{\sin^2 x}{\cos^2 x}}{\sec^2 x} = \frac{\frac{1 + \sin x}{1 + \csc x}}{\frac{\sin x}{1 - \sin x}}$$

C12 - 6.3 - Proofs Add Subtract Comp Frac Pythag WS

Prove the left hand side equals the right hand side

$$\begin{array}{c|c} \frac{\cos x + 1}{\sin x} & \frac{1 + \frac{1}{\cos x}}{\tan x} \\ \hline & \end{array}$$

$$\begin{array}{c|c} \frac{1 + \frac{1}{\sin x}}{\cot x} & \frac{1 + \sin x}{\cos x} \\ \hline & \end{array}$$

$$\begin{array}{c|c} \frac{\csc x}{1 + \frac{1}{\sin x}} & \frac{1}{1 + \sin x} \\ \hline & \end{array}$$

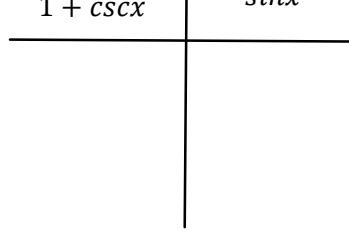
$$\begin{array}{c|c} \frac{\cos x}{1 + \sin x} & \frac{\cot x}{1 + \frac{1}{\sin x}} \\ \hline & \end{array}$$

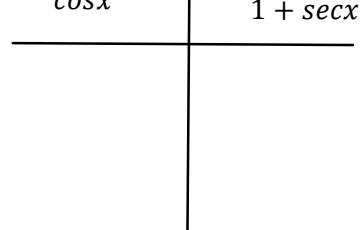
$$\begin{array}{c|c} \frac{\csc x}{1 + \frac{\cos x}{\sin x}} & \frac{1}{\sin x + \cos x} \\ \hline & \end{array}$$

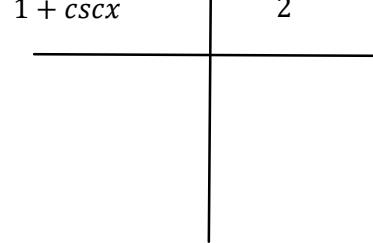
$$\begin{array}{c|c} \frac{1}{1 + \tan x} & \frac{\cos x}{\sin x + \cos x} \\ \hline & \end{array}$$

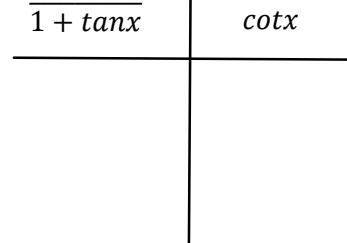
C12 - 6.3 - Proofs Add Subtract Comp Frac Pythag WS

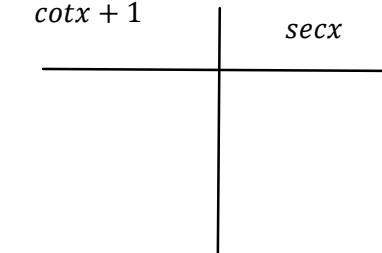
Prove the left hand side equals the right hand side

$$\frac{1 + \sin x}{1 + \csc x} \quad | \quad \sin x$$


$$\cos x \quad | \quad \frac{1 + \cos x}{1 + \sec x}$$


$$\frac{1 + \sec x}{1 + \csc x} + 1 \quad | \quad 2$$


$$\frac{1 + \cot x}{1 + \tan x} \quad | \quad \cot x$$


$$\frac{\csc x + \sec x}{\cot x + 1} \quad | \quad \sec x$$


$$\csc x \quad | \quad \frac{\csc x + \sec x}{\tan x + 1}$$
