$\sin x \tan^2 x = \sin x$ $\quad \sin x = u$

$u m^2 = u$ $\quad \tan x = m$

$-u \quad -u$

$u m^2 - u = 0$

$u(m^2 - 1) = 0$

$u(m-1)(m+1) = 0$

$u = 0 \quad m = 1 \quad m = -1$

$\sin x = 0 \quad \tan x = 1 \quad \tan x = -1$

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5.2 Notes

$\tan x + \cot x = \sec x \csc x$

Do not solve the equation

$\frac{\sin x}{\cos x} \cdot \frac{c}{c} + \frac{\cos x}{\sin x} \cdot \frac{c}{c}$ — common denominator

$\frac{\sin^2 x}{\cos x \sin x} + \frac{\cos^2 x}{\sin x \cos x}$ — add the fractions

$\frac{\sin^2 x + \cos^2 x}{\cos x \sin x}$ — Pythag identity

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

$\frac{1}{\cos x} \cdot \frac{1}{\sin x}$ — reciprocal identity

$\sec x \csc x$

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$\frac{\sec^2 \theta - 1}{\sin \theta} \stackrel{?}{=} \frac{\sin \theta}{1 - \sin^2 \theta}$

$\frac{\tan^2 \theta}{\sin \theta}$

$\frac{\sin^2 \theta}{\cos^2 \theta} \cdot \frac{1}{\sin \theta}$

$\frac{\sin \theta}{\cos^2 \theta}$

$\frac{\sin \theta}{1 - \sin^2 \theta} = \frac{\sin \theta}{1 - \sin^2 \theta}$

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(12) $\sin x(\cot x + \cos x \tan x) = \cos x + \sin^2 x$

$\frac{\cos x}{\sin x} + \cos x \cdot \frac{\sin x}{\cos x}$

$\sin x \left(\frac{\cos x}{\sin x} + \sin x\right)$

$\frac{\sin x \cos x}{\sin x} + \sin x \cdot \sin x$

$\cos x + \sin^2 x$

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