

Conditions

use the fundamental identities to find an equivalent expression involving only sines and cosines, and then simplify it

$\sec^2(x) + \sin^2(x)$

Solution

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