

Section 4-2 Pythagorean, Reciprocal and Quotient Properties

Reciprocal Properties

$$\sec x =$$

$$\csc x =$$

$$\cot x =$$

Take $\sin x$ and divide by $\cos x$. What is the result?

Quotient Properties

$$\tan x =$$

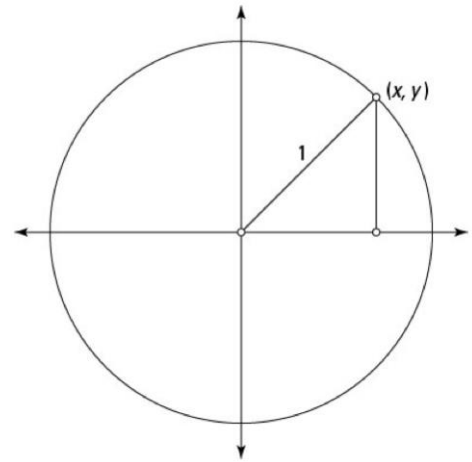
$$\cot x =$$

Pythagorean Properties

$$u = \cos x \quad \text{and} \quad v = \sin x$$

Using the Pythagorean Theorem

$$u^2 + v^2 = 1$$



Start with $\sin^2 x + \cos^2 x = 1$ and divide both sides of equation by $\cos^2 x$

Start with $\sin^2 x + \cos^2 x = 1$ and divide both sides of equation by $\sin^2 x$

Pythagorean Properties

$$\sin^2 x + \cos^2 x = 1$$

$$1 + \tan^2 x = \sec^2 x$$

$$1 + \cot^2 x = \csc^2 x$$