Unit 09: Trigonometric Identities (Part 1)

Content Area: **Mathematics**
Course(s): **PreCalc Trig H**
Time Period: **Semester 1**
Length: **1.5 weeks**
Status: **Published**

Standards - NJCCS/CCSS

CCSS.Math.Content.HSF-TF.C	Prove and apply trigonometric identities
CCSS.Math.Content.HSF-TF.C.8	Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.

Enduring Understandings

Trignometric identities can be used to simplify trignometric expressions.

Essential Questions

How can we prove that a trignometric identity is true?

What are the three basic identities?

What strategies are used when proving trignometric identities?

Knowledge and Skills

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

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

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

SWBAT develop the three pythagorean identities.

SWBAT simplify trigonometric expressions using the identities.

SWBAT prove trigonometric identites.

Resources

Trigonometry

Authors: Lial, Hornsby, Schneider

Graphing Calculator

www.desmos.com

www.flipgrid.com

www.graphfree.com