Today's Learning Goal(s):

By the end of the class, I will be able to:

a) prove trigonometric identities.

5.5   Trigonometric Identities

Equations are valid for only certain values of the variable.
For example:

$2x + 1 = 7$ $x^2 - 5x - 14 = 0$

Identities are valid for **all values** of the variable.
For example:

$2(x + 3) = 2x + 6$ $x^2 + 6x + 9 = (x + 3)^2$

Let's start with the circle definitions to develop some identities that we can use later.

SYR CXR TYX

To Prove an Identity:
   * Separate the LS and RS, and work on them separately

Ex.1 Prove that $\tan\theta = \dfrac{\sin\theta}{\cos\theta}$

Ex.2 Prove that $\sin^2\theta + \cos^2\theta = 1$

Ex.3   Prove that

a) $\dfrac{\cos\alpha\,\tan\alpha}{\sin\alpha}=1$

b) $\cos\phi=\dfrac{1}{\cos\phi}-\sin\phi\,\tan\phi$

Identities

Reciprocal Identities

Quotient Identities

Pythagorean Identities

Are there any Homework Questions you would like to see on the board?

Last day's work: pp. 338-339 #1 – 5, 8 – 13

p. 340 #2

Study for the Unit 5 Summative!

Today's Homework Practice includes:
p. 310 #1 – 6

Work ahead? pp. 310-311 #8, 10 – 12 [14]
Worksheet a – j (*online*)

Note: Sometimes using substitution can help simplify a question.
Ex. Simplify $(1 - \cos\theta)(1 + \cos\theta)$ Change to