

DATE: _____

Unit 6 (Chapter 5): Analytic Trigonometry**Pre-Calculus****5.1 Fundamental Trig Identities**

Target 6A: Verify, evaluate, and apply trigonometric identities and formulas

Review of Prior Concepts

Simplify.

a) $\frac{3x+6}{x^2+5x+6}$

b) $\frac{x}{2} + \frac{2}{x} - \frac{x}{4}$

More Practice**Simplifying Algebraic Expressions**<http://www.purplemath.com/modules/rtnldefs3.htm><https://www.khanacademy.org/math/algebra2/rational-expressions-equations-and-functions/simplify-rational-expressions/v/simplifying-rational-expressions-1><http://www.mathwarehouse.com/algebra/rational-expression/how-to-simplify-rational-expressions.php><https://www.youtube.com/watch?v=5xgRFbkQYgE><https://www.youtube.com/watch?v=NjBvycGQX48>**Simplify the following trig expressions. Check your answer in your graphing calculator.**

As a class,

Now, you try:

1) $\tan^2 x (\csc^2 x - 1)$

1) $\frac{\cos^2 x}{1-\cos^2 x}$

As a class,

2) $\frac{\tan x}{\csc^2 x} + \frac{\tan x}{\sec^2 x}$

Now, you try:

2) $\frac{\sin x}{\cot^2 x} - \frac{\sin x}{\cos^2 x}$

Unit 6 (Chapter 5): Analytic Trigonometry**Pre-Calculus****Factor the expression as a single trigonometric function***As a class,*

3) $\cos x - 2 \sin^2 x + 1$

Now, you try:

3) $\sin^2 x + \frac{2}{\csc x} + 1$

RALLY COACH**Simplify each expression. Check your answer graphically. Take turns doing problems.**

Name:	Name:
$\frac{1 - \cos^2 \theta}{\sin \theta}$	$\frac{\sin^2 \theta \cot^2 \theta}{1 - \sin^2 \theta}$
$\cos x \csc x (\sec^2 x - 1)$	$\frac{\sec^2 x - 1}{\tan x}$

Unit 6 (Chapter 5): Analytic Trigonometry**Pre-Calculus**

$\frac{\tan \beta + \cot \beta}{\cot \beta}$	$\cos \beta (\sec \beta - \cos \beta)$
$\frac{\tan \alpha - \tan \alpha \sin^2 \alpha}{2 \sin \alpha \cos \alpha}$	$\frac{\sec \alpha - \cos \alpha}{2 \tan \alpha \sin \alpha}$

More Practice**Simplifying Trig Expressions**

<http://www.intmath.com/analytic-trigonometry/1-trigonometric-identities.php>

<http://www.mathguide.com/lessons2/TrigExpress.html>

<http://www.purplemath.com/modules/proving.htm>

<https://www.youtube.com/watch?v=CsfHFZL345M>

<https://www.youtube.com/watch?v=I4mcja8abDc>

Homework Assignment

p.410 #25,29,33,37,41,45,49