SEGMENT THREE: HOW TO APPLY

BY MARK KARADIMOS

AVAILABLE ON VIDEO AT...

HTTPS://WWW.YOUTUBE.COM/WATCH?V=PP2CW2 ILLK

Assign Videos

- Flipped Instruction
- Launch into Topics and Subtopics

Problem of the Day Videos

Home > Lessons > POD Videos

Search | Updated August 21st, 2016

.

In the next section, you will learn how do a variety of skills by viewing these videos presented here. Click on the name to open the YouTube video. Each video has been aligned to various common core mathematics categories.

Problem of the Day Videos

Name	Time	Number Quantity	Algebra	Functions	Modeling	Geometry	Statistics Probability	Targeted Course
Area of a Pool	2:36		1		1			
Comparing Areas	5:04					1		
Evaluating Functions	5:01			1				
Increase, Mean, and % Increase	5:06						1	Physical Education
Meal Choices	2:11						1	Foods
Parametric Equations	4:43			1	1			Physics
Percent Comparisons	3:52	1						
Perimeter of a Hexagon	5:17					1		
The Price is Right	3:55	1						Consume Education
Rational Exponents	3:10		1					
Ring Around the Garden	3:59		1		1	1		Horticultur
Slope of a Ramp	3:22	1						Carpentry
A Special Quadratic	4:08		1					
Spinning Wheels	2:31						1	
System of Equations	4:44				1			Business
Which Is Greater?	8:03	1		1		1		

Assign Reading of Lessons

- Flipped Instruction
- Utilize a Jigsaw Approach
- Provide for Learners
 Who Need More Time
 with Topic/Skill

Trigonometric Expressions

Home > Lessons > Trigonometric Expressions

Search | Updated July 2nd, 2018

Introduction

In this section, you will learn how to simplify trigonometric expressions. Here are the sections within this lesson:

- Trigonometric Identities
- Deriving the Pythagorean Trigonometric Identities
- Prerequisite Skills for Simplifying Trigonometric Expressions
- Strategies for Simplifying Trigonometric Expressions
- Example #1
- Example #2
- Verifying Trigonometric Identities
- Instructional Videos
- Interactive Quizzes
- Activities
- Related Lessons

Trigonometric Identities

Trigonometric expressions are non-routine appearing problems. They are unfamiliar because the language of trigonometry looks foreign and complicated. In order to learn how to simplify or reduce the complexity of trigonometric expressions, we first need to examine the identities we need to utilize.

Rooted within right triangle trigonometry, there are:

Pythagorean Identities

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

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

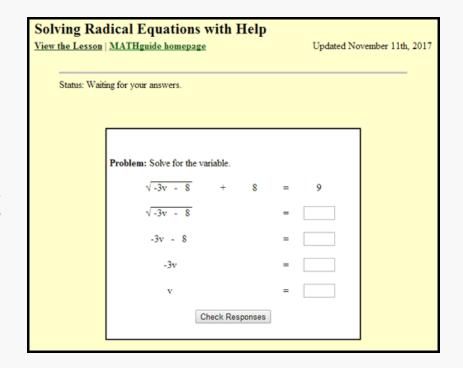
$$\tan^2 x + 1 = \sec^2 x$$

The Pythagorean Identities are proven to be true in the following section: <u>Deriving the</u> Pythagorean Identities.

These expressions are reciprocal trigonometric identities by definition.

Assign Quizmasters

- Openers
- Closers
- Check for Understanding
- Supplement Text-Based Assignments



Use Project Templates

- **Review Strategy**
- Multiple Intelligence Approach
- Whole-Student Approach

Role-Playing a Situation



This project is appropriate for those who enjoy being creative in front of an audience.

Requirements: The role-playing project must contain...

- a four page typed script that explains or describes a mathematical principle and/or concept.
- a 5 to 10 minute presentation either live or taped.
- a parody of an existing theatrical performance or an original work,
- · a professional delivery [dramatic, humorous, informative, ...]

Difficulty Rating: 4 or 5 points

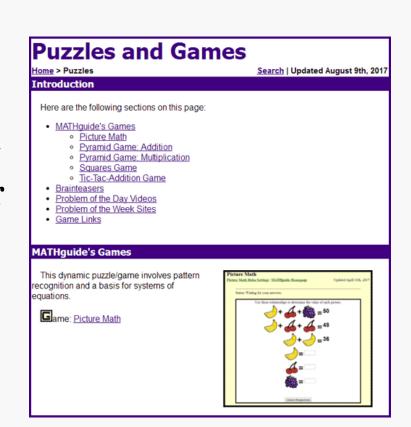
Examples: None at This Time

Special Note: This project can be handled by a team. The team may choose to supplement this presentation with props and music to receive additional

points toward creativity.

Assign Games & Puzzles

- Creative Launch into Topic
- Great Transition Device for Ramping Up Difficulty
- Address Higher Order Thinking



Utilize the Bulletin Board

- Method for Delivering MATHguide Content
- Space for Students to Ask Questions
- Space for Students to Engage in Dialogue

