

MATHguide



SEGMENT THREE: HOW TO APPLY

BY MARK KARADIMOS

AVAILABLE ON VIDEO AT...

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=PP2CW2_ILLK](https://www.youtube.com/watch?v=PP2CW2_ILLK)

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Assign Videos

- Flipped Instruction
- Launch into Topics and Subtopics

Problem of the Day Videos

[Home](#) > [Lessons](#) > [POD Videos](#)

[Search](#) | Updated August 21st, 2016

Introduction

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		✓		✓			
Comparing Areas	5:04					✓		
Evaluating Functions	5:01			✓				
Increase, Mean, and % Increase	5:06						✓	Physical Education
Meal Choices	2:11						✓	Foods
Parametric Equations	4:43			✓	✓			Physics
Percent Comparisons	3:52	✓						
Perimeter of a Hexagon	5:17					✓		
The Price is Right	3:55	✓						Consumer Education
Rational Exponents	3:10		✓					
Ring Around the Garden	3:59		✓		✓	✓		Horticulture
Slope of a Ramp	3:22	✓						Carpentry
A Special Quadratic	4:08		✓					
Spinning Wheels	2:31						✓	
System of Equations	4:44				✓			Business
Which Is Greater?	8:03	✓		✓		✓		

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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

$$\begin{aligned}\sin^2 x + \cos^2 x &= 1 \\ 1 + \cot^2 x &= \csc^2 x \\ \tan^2 x + 1 &= \sec^2 x\end{aligned}$$

The Pythagorean Identities are proven to be true in the following section: [Deriving the Pythagorean Identities](#).

These expressions are reciprocal trigonometric identities by definition.

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Assign Quizmasters

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

Solving Radical Equations with Help Updated November 11th, 2017

[View the Lesson](#) | [MATHguide homepage](#)

Status: Waiting for your answers.

Problem: Solve for the variable.

$$\sqrt{-3v - 8} + 8 = 9$$
$$\sqrt{-3v - 8} = \input{text}$$
$$-3v - 8 = \input{text}$$
$$-3v = \input{text}$$
$$v = \input{text}$$

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Use Project Templates

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

Role-Playing a Situation



Summary: 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.

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Assign Games & Puzzles

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

Puzzles and Games

[Home](#) > [Puzzles](#)

[Search](#) | Updated August 9th, 2017

Introduction


Here are the following sections on this page:

- [MATHguide's Games](#)
 - [Picture Math](#)
 - [Pyramid Game: Addition](#)
 - [Pyramid Game: Multiplication](#)
 - [Squares Game](#)
 - [Tic-Tac-Addition Game](#)
- [Brainteasers](#)
- [Problem of the Day Videos](#)
- [Problem of the Week Sites](#)
- [Game Links](#)

MATHguide's Games

This dynamic puzzle/game involves pattern recognition and a basis for systems of equations.

 Game: [Picture Math](#)



Picture Math
Picture Math, Bites, Settings | MATHguide, Blankpage | Updated April 11th, 2017

Status: Waiting for user answer.

Use these relationships to determine the value of each picture.

$$\begin{array}{l} \text{Banana} + \text{Apple} + \text{Grapes} = 50 \\ \text{Banana} + 2 \text{ Apples} + \text{Grapes} = 48 \\ \text{Banana} + \text{Apple} + \text{Grapes} = 36 \\ \text{Banana} = \square \\ \text{Apple} = \square \\ \text{Grapes} = \square \end{array}$$

(Click Responses)

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Utilize the Bulletin Board

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

MATHGUIDE
The HELP Center

A free bulletin board for mathematics education. Register to get started.

Welcome, Admin. You are logged into the Forums. [Edit Profile](#) [Search](#) [Log Out](#) [Help](#) [Refresh](#)

[Administrator Options](#) | [Terms Manager](#) | [Skin Changer](#) | [Administrator's Manual](#)

You last logged out on 28-Feb-19 18:52 [View Today's Active Topics](#) (0)

Welcome to The HELP Center. If you would like to post a message, you first need to **register**. It's completely free to register and post messages and only requires the use of an active e-mail account.

Forum	Topics	Posts	Last Post	Moderators
Lessons				
Existing Math Lessons Students go here for current online math lessons.	165	168	11-Apr-19 12:32	Admin
Extra Credit This is the place students go to get special extra credit assignments.	36	47	19-Dec-11 13:30	Admin
Algebra Help				
Functions Discover the properties of non-trigonometric functions, like inverses, domain, range, evaluation, ...	11	16	29-May-19 12:05	Admin
Order of Operations Basic computations are handled in this forum.	6	9	09-Aug-17 09:44	Admin
Solving Equations and Inequalities Solving equations and inequalities is the topic here.	26	58	30-Jan-19 11:04	Admin
Polynomials Learn about various properties, like zeros, factors, expressions, and graphs.	7	9	25-May-19 12:13	Admin
Geometry Help				
Proofs Questions and comments related to proofs are handled here.	10	12	23-Feb-19 12:51	Admin
Shapes and Structures Learn to construct shapes and structures, like area, perimeter, volume.	15	39	18-Apr-18 09:13	Admin