

Math with Ms. Patterson

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ALGEBRA 2 - A

LESSONS ~ PROJECTS ~
RESOURCES

The Roller

Coaster Project
for Unit 3 is Due

Sep 8.

See the How-To
recording below!

WELCOME VIDEO

Nevada High Sch
ACT Mathematic

Question of the D

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“ I am investing in my future. So today I will do my
best! ”

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NEED MATH HELP?

Use the resources below,
then schedule a call with me.

We can use the LiveLesson whiteboard
to go over math questions.

OPEN NOTES & DESMOS for ASSESSMENTS

Take good notes from your lessons and the
resources below, then use them during
assessments.

Yes, you may use Desmos during assessments.

WANT TO RAISE YOUR GRADE??

Send in Reworks!!

- * any question from any Test or Quiz
- * but not Quick Checks
- * write out all of the steps to solve it
- * if it involves a graph, use Desmos and include a screen snip of your graph
- * Webmail a copy or picture of your work
- * yes, multiple choice questions, too!

SCHEDULE A CALL WITH ME

DESMOS GRAPHING
CALCULATOR

A NOTE ABOUT CALCULATORS:



You will need a calculator for this class, and an online graphing calculator provided in your lessons! I recommend bookmarking this link: [DESMOS](#)

If you choose to also buy a calculator, any calculator labeled "scientific" will be sufficient for calculations in this class, but you will still need Desmos for graphing. If you go on to calculus or statistics, you will then want to get a handheld graphing calculator.

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PROJECTS

SEPTEMBER PROJECT



The ROLLER COASTER PROJECT for Unit 3:

Note: The recording says to upload your work to a drop box, but the drop box has been closed. You will send this to me by Webmail. :)

Due Date: This project is to be started by the time you finish Unit 3 and is due by Sep. 8. Projects not received by Sep. 15 will get a temporary zero to remind you to get this submitted.

[Watch this NEW How-To Recording for the Roller Coaster Project](#)

[Then Read these Instructions](#)

OCTOBER

NOVEMBER

DECEMBER

PROJECT

The ACT EXAM MATH PRACTICE PROJECTS:

You will be taking ACT Math Practice Tests that I assign in your USA Test Prep Account.

- [See a recording HERE](#)
- You will need to make an account at USA Test Prep if you didn't make one last year.
- Then select "Join a Class". Look for my name and the class "Patterson ACT 21-22".
- As each test release date comes, you will see the test link in your Assignments list.

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USA
TEST
PREP
LOGIN

MAKING
AN
ACCOUNT

- **BEFORE** taking the first test, check out this [list of topics to review](#).
- You don't need to send me anything, I will get a report of your scores.
- Getting 60% correct on a practice test will get you all 10 points in your grade book.
- If you want to try for a higher score, there will be a retake test available.
- After each test, go back and review the answer explanations.
- **ALSO:** Send a Test Correction Report for each test to get Participation points. Select 10 questions you missed, then write up what your error was, and, in your own words, how to get the correct answer. Send these in by Webmail by the end of each month.

UNIT 2 - EXPRESSIONS, EQUATIONS, & INEQUALITIES

LIVELESSONS:

08-12-2021 [Properties, Expressions, Equations](#)
08-19-2021 [Inequalities & Absolute Value Equations](#)

UNIT 2 KEY CONCEPTS NOTES

Khan Academy Unit:

[Solving Equations & Inequalities](#)

Virtual Nerd Mini

Videos:

- *[Distributive Property](#)
- *[Evaluate an Expression](#)
- *[Order of Operations](#)
- *[Solve an Equation](#)
- *[Solve for the Indicated](#)

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UNIT 2 LESSON VIDEOS:

- 2.1 [Patterns & Expressions](#)
- 2.2 [Properties of Real Numbers](#)
- 2.3 [Algebraic Expressions](#)
- 2.4 [Solving Equations](#)
- 2.5 [Solving Inequalities](#)
- 2.6 [Absolute Value Equations & Inequalities](#)

TEXTBOOKANSWERS:

- 2.1 page 1039
- 2.2 page 1040
- 2.3 page 1040
- 2.4 page 1041
- 2.5 page 1041
- 2.6 page 1042
- Review page 1043

Variable

- *Solve an Inequality
- *Solve & Graph an "And" Compound Inequality
- *Solve & Graph an "Or" Compound Inequality
- *Solve an Absolute Value Inequality
- *Determine if an Absolute Value Inequality is And/Or

[DESMOS GRAPHING CALCULATOR](#)
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UNIT 3 - FUNCTIONS, EQUATIONS, & GRAPHS

LIVELESSONS:

- 08-26-2021 [FYI The Roller Coaster Project + Direct Variation](#)
- 09-02-2021 [Transformations + Inequalities](#)
- No LiveLesson Sep. 9

[UNIT 3 KEY CONCEPTS NOTES](#)
Khan Academy Units:

- [Linear Equations & Graphs](#)
- [Forms of Linear Equations](#)

*Check out this slope-intercept visual tool: [HERE](#)

Virtual Nerd MiniVideos:

- *Function Test

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EOS:TEXTBOOK

3.1 Relations & Functions
 3.2 Direct Variation
 3.3 Linear Functions & Slope-Intercept
 3.4 More About Linear Functions
 3.5 Families of Functions
 3.6 Two-Variable Inequalities
 3.7 Honors - Absolute Value Functions

ANSWERS:

3.1 page 1043
 3.2 page 1044
 3.3 page 1045
 3.4 page 1045
 3.5 page 1047
 3.6 page 1050
 3.7 page 1048
 Review page 1051

*Function Notation
 *Linear Equations
 *Slope-Intercept Form
 *Point-Slope Form
 *Finding Slope
 *Graphing with the Slope and y-intercept
 *Using a Direct Variation
 *Parent Functions
 *Function Translations

**see more at
virtualnerd.com

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UNIT 4 - LINEAR SYSTEMS

LIVELESSONS:

09-16-2021 Constraints for Linear Programming
 09-23-2021 A System of Equations Word Problem

Khan Academy Units:

Systems of Equations
 Systems of Inequalities

Virtual Nerd MiniVideos:

*What is a System
 *Solve by Graphing

UNIT 4 KEY CONCEPTS NOTES

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UNIT 4 LESSON VIDEOS:

- 4.1 Solving Systems Using Tables & Graphs
- 4.2 Solving Systems Algebraically
- 4.3 Systems of Inequalities
- 4.4 Linear Programming
- 4.5 Systems with Three Variables
- 4.6 Solving Systems Using Matrices

**Check out this tool for solving 3-variable systems: [HERE](#)

TEXTBOOKANSWERS:

- 4.1 page 1053
- 4.2 page 1054
- 4.3 page 1054
- 4.4 page 1056
- 4.5 page 1057
- 4.6 page 1057
- Review page 1058

- *Solve by Substitution
- *Solve by Elimination
- *System of Inequalities
- *What is Linear Programming
- *Solving Linear Programming

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UNIT 5 - QUADRATIC FUNCTIONS & EQUATIONS

LIVELESSONS:

- 09-30-2021 Graphs & Transformations of Quadratics
- 10-07-2021 Solving for Zeros of Quadratic Functions

UNIT 5 KEY CONCEPTS NOTES

Khan Academy Units:

- Quadratic Functions & Equations
- Quadratics: Multiplying & Factoring
- Complex Numbers

Virtual Nerd MiniVideos:

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UNIT 5 LESSON VIDEOS:

- 5.1 Quadratic Functions & Transformations
- 5.2 Standard Form of a Quadratic Function
- 5.3 Modeling with Quadratic Functions
- 5.4 Factoring Quadratic Expressions
- 5.5 Quadratic Equations
- 5.6 The Quadratic Formula
- 5.7 Complex Numbers
- 5.8 Quadratic Systems

**see more

at [virtualnerd.com](https://www.virtualnerd.com)'20-'21 RECORDINGS:

*Quadratic Functions

*Solving Quadratic

Equations

*Complex Numbers

*Operations with

Complex Numbers

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UNIT 6 - POLYNOMIALS & POLYNOMIAL FUNCTIONS

LIVELESSONS:

- 10-14-2021 Polynomials: Graph Features
& Zeros
- 10-21-2021 The Fundamental Theorem of
Algebra
& Imaginary Roots
- 10-27-2021 The USA Test Prep Project

Khan Academy Units:

Polynomial Arithmetic

Polynomial

Factorization

Polynomial Division

Polynomial Graphs

Virtual Nerd MiniVideos:

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UNIT 6 KEY CONCEPTS NOTES

****see more**

at virtualnerd.com

UNIT 6 LESSON VIDEOS:

- 6.1 Polynomial Functions
 - 6.2 Linear Factors & Zeros of Polynomials
 - 6.3 Solving Polynomials - real or imaginary solutions
 - 6.4 Dividing Polynomials
 - 6.5 Theorems about Solving Polynomials
 - 6.6 The Fundamental Theorem of Algebra - see the LL above
 - 6.7 The Binomial Theorem
- Note: Lesson 8 has been skipped.
- 6.9 Transforming Polynomial Functions

'20-'21 RECORDINGS:

- *Polynomial Functions
- *Linear Factors & Zeros of Polynomials
- *Solving Polynomials - real or imaginary solutions
- *Dividing Polynomials
- *Theorems about Solving Polynomials
- *Expanding Binomials using Pascal's Triangle

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UNIT 7 - EXPONENTIAL & LOGARITHMIC FUNCTIONS

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LESSONS:

Khan Academy Units

11-04-2021 Exponential Growth &
Logarithms

11-18-2021 Solving Exponential &
Logarithmic Equations, plus Natural
Logarithms

BONUS: Extra Practice Problems for Solving
Exponential & Logarithmic Equations

UNIT 7 KEY CONCEPTS NOTES

Exponential Growth &
Decay

Exponents & Radicals
Logarithms

Virtual Nerd Mini

Videos:

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**see more

at [virtualnerd.com](https://www.virtualnerd.com)

UNIT 7 LESSON VIDEOS:

- 7.1 Exploring Exponential Models
- 7.2 Properties of Exponential Functions
- 7.3 Logarithmic Functions as Inverses
- 7.4 Properties of Logarithms
- 7.5 Exponential & Logarithmic Equations
- 7.6 Natural Logarithms

'20-'21 RECORDING:

*Exponential &
Logarithmic Forms for
Solving Equations

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UNIT 8 - SEMESTER EXAM

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PLEASE NOTE:

You will not be taking the semester exam.

The ACT Math Practice Tests in your USA Test Prep account replace the exam.

First semester ends Friday, December 17.

All Lessons, Assessments, Projects, and Reworks must be completed & submitted by 8:59 pm!!

You may rework any question from any Test or Quiz, but start with Tests as they will make a much bigger difference in your grade. You may also rework the Roller Coaster Project.

*For reworks, write out the steps from start to finish for how to get the answer. If a rework needs a graph, you can include a screen shot of what you graphed with Desmos.

Then send a picture of your reworks by Webmail. You don't need to type reworks.

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Visits