

Grade 9 - 11

Distance Learning Module 6: Week of: May 11th - May 15th

Solving Rational Equations

Mathematics: Algebra 2 (Level 2) - Modified from Unit 5 - Rational Expressions & Functions

Targeted Goals from Stage 1: Desired Results

exponential functions: real-life examples, and solving outputs given inputs, compound interest, exponential growth, continuous growth

Content Knowledge: Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. Recognize and understand the difference between a rational expression and a rational equation as well as simplifying versus solving.

Vocabulary: Common Denominator, Domain Restriction, Asymptote, Dividing to “One”

Skills:

- We have more mathematical strategies when solving rational equations than when dealing with expressions - student need to recognize whether they are working with an expression or an equation
- solve by multiplying both sides by LCD
- solve by simplifying each side and creating a proportion
- Domain versus Domain Restrictions
- Students should examine the structure of the equation before beginning to solve to ensure they are using an efficient method

Expectation:

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Monday:	YouTube Video: Why we can't divide by Zero (TED-Ed Video)	Worksheet: Introductory Exercise to Rational Equations Q4 and Q5 Challenge
Tuesday:	Khan Academy Video: Introduction to Rational Equations Slides Unit 6 Slides 28 - 34	Khan Academy: Four Question Practice Intro to Rational Equations

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Wednesday:	Khan Academy Video: Equations with Rational Expressions	Khan Academy: Four Question Practice Rational Equations
Thursday:	YouTube Video: Solving Rational Equations 1/Khan Academy	Worksheet: Solving Rational Equations
Friday:	Khan Academy Video: Additional Example of Equations of Rational Expressions	Worksheet: Solving Rational Equations

Week criteria for success (attach student checklists or rubrics):

Students will be able to:

1. Determine if a given number is a solution to a Rational Equation
2. Determine the restrictions on the solutions to a Rational Equation (extraneous solutions)
3. Simplify a Rational Equation with algebraic manipulation to both sides of the equation
4. Compute the answer(s) to a Rational Equation and determine its validity.

Supportive resources and tutorials for the week (plans for re-teaching):

1. YouTube Video: Solving Rational Equations Learn the Easy Way
2. YouTube Video: Math Tutorial for Solving Rational Equations (0:06 to 0:16 seconds is all too familiar)
3. Office Hours
4. Additional Notes with Practice Exercises and Answer Key