

Algebra 2C Notes

Name: _____

8-6 Solving Radical Equations

Date: _____ Hr: _____

Objectives:

- To solve rational equations.
- To use rational equations to solve problems.

Common Core Standards

A.APR.7 Add, subtract, multiply, and divide rational expressions.

Also A.APR.6, A.CED.1, A.RE1.11

A _____ is the quotient of two polynomials. A _____ contains at least one rational expression. To solve a rational equation, first clear the equation of denominators by multiplying by the LCD. This may introduce extraneous solutions.

Example 1: Solving a Rational Equation

What are the solutions of the rational equations?

a.) $\frac{4}{x+2} = \frac{5}{2x+3}$

b.) $\frac{1}{x^2-5x} + \frac{x-7}{x} = \frac{4}{x^2-5x}$

Example 2: Using Rational Equations

A carpenter can build a desk in 6 hrs. Another carpenter can build the same desk in 8 hrs. How long will it take the carpenters working together to build one desk?

You can also use a graphing calculator to solve a rational equation.

Example 3: Using a Graphing Calculator to Solve a Rational Equation

What are the solutions of the rational equation? Use a graphing calculator to solve.

$$\frac{5}{x+1} + \frac{x}{x-1} = 5$$