



Math Virtual Learning

Algebra 2/Honors Algebra 2

May 12, 2020



Lesson: May 12, 2020

Objective/Learning Target:

Students will practice solving rational equations.

Let's Review:

Here are the steps to solve a rational equation.

(write this down, if you haven't already!)

- Factor the denominators
- Find the LCD
- Identify the domain
- Multiply each term by ALL of the LVCD
- Cancel and solve
- Check for extraneous solutions

Let's Get Started:

Go to the [Desmos website](#) to practice solving rational equations.

You will want a sheet of paper to be able to work out the problems.

Extra Help:

- Practice solving rational equations
- Work through the entire activity
- There is no class code, click on the first slide and begin
- Use a calculator if you need it

Example question you might see!

Given the rational equation:

$$\frac{1}{(x-6)} + \frac{x}{(x-2)} = \frac{4}{(x^2 - 8x + 12)}$$

- Find the Common Denominator (write below)
- Determine if there is any value of x that must be excluded from your answer (write below)
- Solve algebraically using the method of your preference (do in your notebook)
- Write your final answer [You must eliminate Extraneous Solutions, if any] (write below)

Solving Rational Equations Practice:

On the same sheet of paper, solve the following practice problems. Remember to check if your solutions work or are extraneous.

$$1. \frac{20}{x^2} + 6 = 11$$

$$2. \frac{x+4}{x^2+5x} = \frac{-2}{x^2-25}$$

$$3. \frac{6}{x+2} = \frac{3}{5}$$

$$4. \frac{x}{x-3} + \frac{3}{2} = \frac{3}{x-3}$$

$$5. \frac{x}{x-2} + \frac{3}{2} = \frac{9}{2(x-2)}$$

$$6. \frac{5}{x+2} + \frac{1}{x+3} = \frac{-1}{x^2+5x+6}$$

$$7. \frac{8}{x^2-4} + \frac{3}{x+2} = \frac{1}{x-2}$$

$$8. \frac{x}{2} + \frac{3}{x-3} = \frac{x}{x-3}$$

Solving Rational Equations Answer Key:

Once you have completed
the problems, check your
answers here.

1. $x = 2$ and $x = -2$

2. $x = 4$

3. $x = 8$

4. *no solution*

5. $x = 3$

6. *no solution*

7. $x = 0$

8. $x = 2$

Additional Practice:

Click on the links below to get additional practice and to check your understanding!

Solving Rational Equations:

[Notes](#), [Practice](#), & [Answer Key](#)

Solving Rational Equations [Website - Practice Problems](#)