

Math Virtual Learning

Algebra 2/Honors Algebra 2

May 8, 2020



Lesson: May 8, 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 [IXL website](#) to practice solving rational equations.

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

Extra Help:

Solve for y.

$$\frac{10}{y+1} = \frac{-10}{y+7}$$

There may be 1 or 2 solutions.

$$y = \boxed{} \text{ or } y = \boxed{}$$

Solve for y.

$$\frac{10}{y+1} = \frac{-10}{y+7}$$

$$\frac{10[(y+1)(y+7)]}{y+1} = \frac{-10[(y+1)(y+7)]}{y+7}$$

Multiply both sides by (y + 1)(y + 7)

$$10(y+7) = -10(y+1)$$

Simplify

$$10y + 70 = -10y - 10$$

Apply the distributive property

$$20y + 70 = -10$$

Add 10y to both sides

$$20y = -80$$

Subtract 70 from both sides

$$y = -4$$

Divide both sides by 20

Now check whether this is an extraneous solution. Plugging $y = -4$ into the first denominator, $y + 1$, yields -3 . Plugging $y = -4$ into the second denominator, $y + 7$, yields 3 . Since neither denominator is 0, which would be undefined, this is a valid solution.

The solution is $y = -4$.

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](#)