Inspiring Greatness

INDEPENDENCE SCHOOL DISTRICT

Math Virtual Learning

Algebra 2/Honors Algebra 2

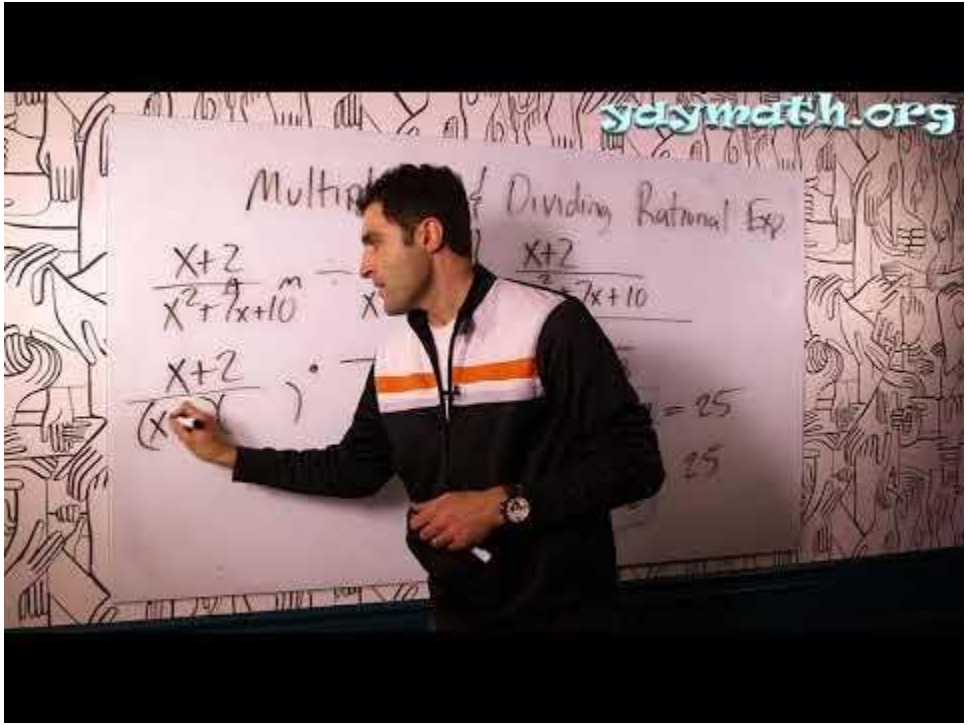
April 28, 2020

Lesson: April 27, 2020

Objective/Learning Target:
Students will practice multiplying and dividing rational expressions.

Let’s Review:

Get out a sheet of paper and watch this video to review multiplying and dividing rational expressions.



Steps to Remember:

Multiplying Rational Expressions:

1. Factor everything
2. Identify the domain (this is the restricted values for x)
3. Cancel (only if the factor is the same on the top and bottom)
4. Write out the simplified answer (what is left after canceling)

Pay attention to the difference between multiplying and dividing.

Ask yourself, why do I need to recheck the domain when dividing rational expressions?

Dividing Rational Expressions:

1. Factor everything
2. Identify the domain (this is the restricted values for x)
3. Flip the 2nd fraction and change the symbol to multiplication
4. Re check the domain (you may now have new restricted values for x)
5. Cancel (only if the factor is the same on the top and bottom)
6. Write out the simplified answer (what is left after canceling)

Multiplying & Dividing Rational Expressions Practice:

On the same sheet of paper, complete the following practice problems and identify the domain.

1. $\dfrac{x+3}{x^2-4x+4} \cdot \dfrac{x^2-x-2}{x^2+4x+3}$

2. $\dfrac{x^2-x-12}{3x+9} \div \dfrac{x^2+x-20}{x+5}$

3. $\dfrac{15x^2}{45x^3} \div \dfrac{5x^6}{9x^4}$

4. $\dfrac{6}{x^2-9x+20} \cdot \dfrac{5x-25}{3x-6}$

5. $\dfrac{6x-12}{4x^2} \cdot \dfrac{3x^3}{2x-4}$

6. $\dfrac{3x-21}{x^2-3x-28} \cdot \dfrac{5x+20}{2x+8}$

7. $\dfrac{x^2-5x-6}{2x+6} \div \dfrac{x^2-3x-4}{4x+12}$

8. $\dfrac{6x-30}{x^2-7x+10} \cdot \dfrac{7x-14}{6x}$

Multiplying & Dividing Rational Expressions Answer Key:

Once you have completed the problems, check your answers.

1) $\frac{1}{x-2}$ Domain $x \neq -3, -1, 2$

2) $\frac{1}{3}$ Domain $x \neq -4, -3, 5$

3) $\frac{9}{15x^3}$ Domain $x \neq 0$

4) $\frac{10}{(x-4)(x-2)}$ Domain $x \neq 2, 4, 5$

5) $\frac{9x}{4}$ Domain $x \neq 0, 2$

6) $\frac{15}{2(x+4)}$ Domain $x \neq -4, 7$

7) $\frac{2(x-6)}{x-4}$ Domain $x \neq -3, -1, 4$

8) $\frac{7}{x}$ Domain $x \neq 0, 2, 5$

Additional Practice:

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

Multiplying & Dividing Notes

IXL - Multiplying & Dividing Rational Expressions

Worksheet #1 Practice & Answer Key

Worksheet #2 Practice & Answer Key