Inspiring Greatness

INDEPENDENCE SCHOOL DISTRICT

Math Virtual Learning

Algebra 2/Honors Algebra 2

April 23, 2020

Lesson: April 23, 2020

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

Let's Get Started:

Get out a sheet of paper and simplify the following expression

$$\frac{x-8}{(x+6)(x-8)} \cdot \frac{4x(x+10)}{x+10}$$

Click here to check your work.

Watch Video: Multiplying Rational Expressions

Watch the video reviewing how to multiply rational expressions and take notes over the example.

Watch Video

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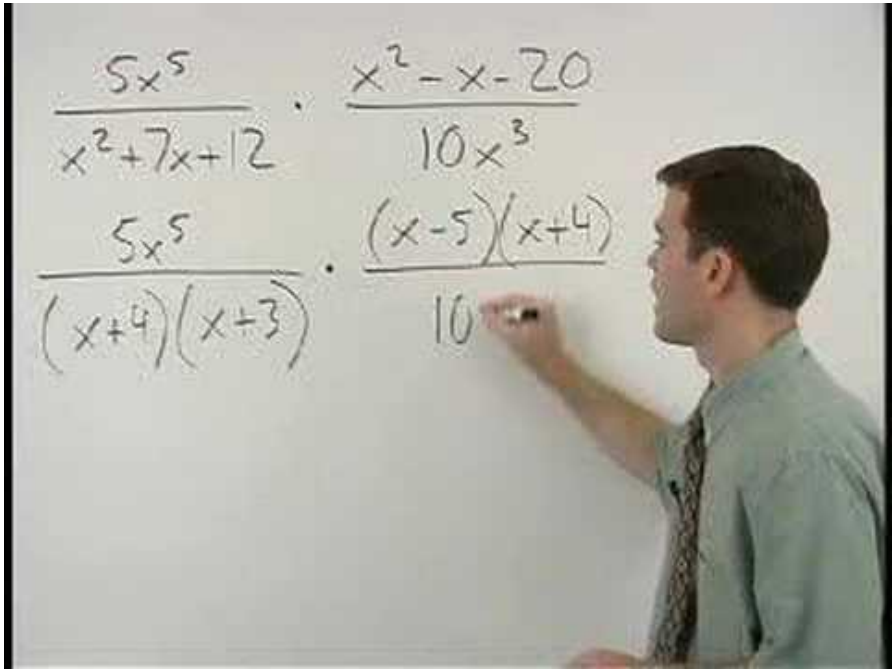

Notes to Remember:

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)

Multiply Rational Expressions Practice:

On the same sheet of paper, multiply/simplify the following practice problems.

A possible answer bank is give on the next slide.

Simplify the following:

1. $\frac{x^3}{2y^2} \cdot \frac{6y^4}{xy}$

2. $\frac{5xy^2}{4x^2} \cdot \frac{8x^3y}{15y^5}$

3. $\frac{x^2+7x+12}{x-5} \cdot \frac{2x-10}{x+3}$

4. $\frac{x^2-3x-10}{x+7} \cdot \frac{3x+21}{6x-30}$

5. $\frac{x-1}{4xy^3} \cdot \frac{6x^2y}{x-1}$

6. $\frac{13xy^2}{x^2+3x-18} \cdot \frac{x^2-9}{26x^4y^2}$

7. $\frac{x^2-25}{14x^3y^8} \cdot \frac{7x^2y}{8x+40}$

8. $\frac{x^2-1}{x+4} \cdot \frac{x^2+4x}{x^2-2x+1}$

9. $\frac{2x+10}{8x-32} \cdot \frac{x^2-10x+24}{x^2-x-30}$

10. $\frac{12x+48}{6x-15} \cdot \frac{2x^2-5x}{x^2+9x+20}$

Multiply Rational Expressions Practice:

Answer Bank:

G. $\frac{3x}{2y^2}$	O. $\frac{4x}{x+5}$	L. $\frac{x+3}{2x^3(x+6)}$
F. $\frac{x-4}{x+4}$	H. $3x^2y$	T. $\frac{1}{4}$
D. $\frac{2x^2}{3y^2}$	I. $\frac{x+2}{2}$	E. $2(x+4)$
N. $\frac{x(x+1)}{x-1}$	S. $\frac{x-5}{16xy^7}$	A. $\frac{4(2x-5)}{(x-5)}$

What do you call a message printed on a lion with chickenpox?

7	4	5	8	10	8	9	1	3	2	10	9	9	3	2	6	4	10	8

Answer Key:

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

Answer Bank:

G. $\frac{3x}{2y^2}$ 5	O. $\frac{4x}{x+5}$ 10	L. $\frac{x+3}{2x^3(x+6)}$ 6
F. $\frac{x-4}{x+4}$	H. $3x^2y$ 1	T. $\frac{1}{4}$ 9
D. $\frac{2x^2}{3y^2}$ 2	I. $\frac{x+2}{2}$ 4	E. $2(x+4)$ 3
N. $\frac{x(x+1)}{x-1}$ 8	S. $\frac{x-5}{16xy^7}$ 7	A. $\frac{4(2x-5)}{(x-5)}$

Additional Practice:

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

Multiplying Rational Expressions Example 1 - video

Multiplying Rational Expressions Example 2 - video

Multiplying Rational Expressions Example 3 - video

Multiplying Rational Expressions Practice - worksheet and answers