

Your Name

Mrs. Theo

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Notes

Lesson 7.3

Multiplying and Dividing Rational Polynomials

Day 2

Multiplying Fractions: How many ways can you go about this?

$$\frac{14}{7} \cdot \frac{28}{4} = \frac{14 \cdot 1}{1 \cdot 1} = 14$$

$$\frac{7 \cdot 2}{7} \cdot \frac{2 \cdot 2 \cdot 7}{2 \cdot 2}$$

$$\frac{\cancel{7} \cdot \cancel{2} \cdot \cancel{2} \cdot \cancel{2} \cdot 7}{\cancel{7} \cdot \cancel{2} \cdot \cancel{2}} = \frac{\cancel{7}}{\cancel{7}} \cdot \frac{\cancel{2}}{\cancel{2}} \cdot \frac{\cancel{2}}{\cancel{2}} \cdot \frac{2 \cdot 7}{1}$$

14

Multiply
Rational
Polynomials

Factor each polynomial, and cancel factors of 1, multiply leftovers from top together and leftovers from bottom together. Leave factored

$$\frac{v^2 - 4v - 21}{3v^2 + 6v} \cdot \frac{v^2 + 8v}{v^2 + 11v + 24}$$

$$\frac{(v-7)\cancel{(v+3)}}{3\cancel{v}(v+2)} \cdot \frac{\cancel{v}(v+8)}{\cancel{(v+3)}(v+8)}$$

$$\boxed{\frac{v-7}{3(v+2)}} \quad \frac{v-7}{3v+6}$$

Answer Key

1. $\frac{9}{7x}$

2. $\frac{x+6}{(x-4)(x-2)}$

3. $\frac{3}{8x^2}$

4. $\frac{20}{x(x-1)}$

5. $\frac{7}{6x}$

6. 15

7. $\frac{8}{3(x-5)}$

8. $\frac{5}{4}$