

**Essential Skills Quiz**  
 You will need a graphing calculator.

14, 10, 8

$$\begin{array}{l} AC \quad B \\ \frac{2 \cdot 3}{-6} \quad 1 \\ \frac{-2 \cdot 3}{-6} \quad 1 \end{array} \quad \begin{array}{l} 2d^2 + d - 3 \\ \text{replace} \\ (2d^2 - 2d) + (3d - 3) \\ 2d(d-1) + 3(d-1) \\ \boxed{(d-1)(2d+3)} \end{array}$$

Feb 25-3:26 PM

Feb 26-9:28 AM

Day 1 - Multiplying & Dividing Rational Expressions 2-25-15

**Steps for Multiplying Rationals:**

- 1) Factor everything (numerators and denominators).
- 2) Cancel matching factors from top and bottom.
- 3) Write (and multiply) what's left.

$\frac{3(a+9)}{a(a-5)} \cdot \frac{7a(a-5)}{9(a+9)} = \frac{7a}{3a}$  Today it will already be factored for you. Not tomorrow though :)

Feb 27-3:00 PM

Example 1:

$$\frac{1}{7(b+6)} \cdot \frac{7(b+6)}{b-2} = \frac{1}{b-2}$$

Example 2:

$$\frac{2b(p+2)}{(p+2)(p+9)} \cdot \frac{(p-9)(p+9)}{3b(p+7)} = \frac{2(p-9)}{3(p+7)}$$

Example 3:

$$\frac{3n}{(7-n)} \cdot \frac{(n-6)(n-7)}{28n^2} = \frac{3(n-6)}{-2n^2} = \frac{-3(n-6)}{2n^2}$$

Feb 27-3:05 PM

**Steps for Dividing Rationals:**

- 1) Flip the 2nd fraction.
- 2) Factor everything (numerators and denominators).
- 2) Cancel matching factors from top and bottom.
- 3) Write (and multiply) what's left.

$$\frac{3m(2m-1)}{14m^2} \div \frac{9m(2m-1)}{7m}$$

$$\frac{3\cancel{m}(2m-1)}{2 \cdot 7 \cancel{m} m} \cdot \frac{7\cancel{m}}{3\cancel{9}m(2m-1)}$$

$$\frac{1}{6m}$$

Feb 20-3:56 PM

Example 4:

$$\frac{(n-1)(n+7)}{4} \div \frac{n+8}{8(n+8)}$$

$$\frac{(n-1)(n+7)}{\cancel{4}} \cdot \frac{\cancel{8}(n+8)}{n+8}$$

$$2(n-1)(n+7)$$

Example 5:

$$\frac{x-4}{5(x+3)} \div \frac{(x+7)(x-4)}{10x^2(x+3)}$$

$$\frac{\cancel{x-4}}{5\cancel{(x+3)}} \cdot \frac{2 \cdot 10 \cancel{x} x (x+3)}{(x+7)\cancel{(x-4)}}$$

$$\frac{2x^2}{x+7}$$

Example 6:

$$\frac{9r(r-6)}{(r+5)(6-r)} \div \frac{r-7}{12r^2(r+5)}$$

Feb 27-4:19 PM

**Conclusion**

1. What do we need to do to simplify rational expressions? Factor, cancel top to bottom
2. What is the first step when dividing rational expressions? flip 2nd fraction
3. Tomorrow what will the first thing you do? **FACTOR**
4. Questions?????

**Multiply and Divide Rational Expressions**  
**Wkst**

Feb 21-8:19 AM