Algebra 1.5 7.2 **Multiplying and Dividing Rational Expressions**

* Multiply rational expressions.
* Divide rational expressions.
* Convert units of measurement using dimensional analysis.

**To multiply rational expressions**

1. \_\_\_\_\_\_\_\_\_\_\_\_ each numerator and denominator completely.

2. \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ any numerator factor with any matching denominator factor.

3. \_\_\_\_\_\_\_\_\_\_\_\_\_ numerator by numerator and denominator by denominator.

4. \_\_\_\_\_\_\_\_\_\_ as needed.

**Example 1:**  Multiply $\frac{6a}{5b}∙\frac{25ab^{2}}{18}$

**Example 2a:**  Multiply $-\frac{5x}{2x-8}∙\frac{3x-12}{15x^{3}}$

**Example 2b:**  Multiply $\frac{20-4x}{9x}∙\frac{3x^{2}}{2x-10}$

**Example 2c:**  Multiply $\frac{x^{2}+x-2}{20}∙\frac{4}{2x^{2}-3x+1}^{}$

**To divide rational expressions:**

**1.** Write an \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ statement with the reciprocal of the divisor.

**2.** \_\_\_\_\_\_\_\_\_\_\_\_ each numerator and denominator completely. (Steps 1 and 2 are interchangeable.)

**3.** \_\_\_\_\_\_\_\_\_\_\_\_ out any numerator factor with any matching denominator factor.

**4.** \_\_\_\_\_\_\_\_\_\_\_\_ numerator by numerator and denominator by denominator.

**5.** \_\_\_\_\_\_\_\_\_\_\_\_\_ as needed.

**Example 3:** Divide $-\frac{6x^{2}y}{35z^{3}}÷\frac{20y}{5z}$

**Example 4:** Divide

**Using Dimensional Analysis to Convert Between Units of Measurement**

To convert units using dimensional analysis, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the given measurement by conversion factors so that the undesired units \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_, leaving the desired units.

**Example 5a:** Convert 300 ounces to pounds

**Example 5a:** Convert 17 yards to inches.

**Example 5c:** Convert 25 miles per hour to feet per second.

**Homework:** Pg 506 #8-68 by 4s