**Lesson 2.4b Multiplying & Dividing Fractions**

EQ: How do we use what we know about multiplying/ dividing integers to multiply/divide fractions?

Key Idea: When multiplying/dividing fractions, use the same rules as multiplying/dividing integers.

**SAME SIGNS = POSITIVE ANSWER**

**-** **÷ -**  **= + ,**  **÷**  **= + , -** **• -**  **= + ,**  **•**  **= +**

**DIFFERENT SIGNS = NEGATIVE ANSWER**

**-**  **÷ =** **- ,**  **÷ -**  **= - , -**  **• =** **- ,**  **• -**  **= -**

**MULTIPLYING FRACTIONS**

**\*REDUCING FIRST\***

**STEP 1-** Cross cancel diagonally

**STEP 2-** Reduce each fraction if possible.

**STEP 3-** Multiply across

**STEP 4-** CHECK/ADD your + or – SIGN!

EX: **-** **• -**  **-** **• -**  =

**\*REDUCING LAST\***

**STEP 1-** Multiply across

**STEP 2-** Reduce/Simplify your answer by dividing numerator and denominator by common factors until simplified.

EX: **-** **• -**  =  **÷ = ÷ = ÷ = -**

**DIVIDING FRACTIONS**

**Dividing by fractions = Multiplying by the RECIPROCAL**

**RECIPROCAL-** The multiplicative inverse, what you multiply a fraction by to get 1, basically it is the upside down version of a fraction.

EX: 🡪reciprocal is

**STEP 1- Rewrite the problem-**

**KEEP** the first fraction as you see it.

**CHANGE** division to multiplication

**RECIPROCAL-** change the 2nd fraction to its reciprocal

**STEP 2-** Multiply the fractions just like in 2.4a notes.

**STEP 3-** CHECK/ADD your + or – SIGN!

EX: **-** **÷**  🡪 **-** **x**  = - 🡪 -1

When adding, subtracting, multiplying, or dividing more than two rational numbers in a problem…

-REMEMBER: **ORDER of OPERATIONS**

**PARENTHESIS ( )**

**EXPONENTS x2**

**MULTIPLICATION & DIVISION** from left to right

**ADDITION & SUBTRACTION** from left to right

-REMEMBER to follow the rules for **+, -, x, ÷**

-REMEMBER to follow rules for **+ & - SIGNS**

**Ex. 2.85 – 6.2 ÷ 22**

**2.85 – 6.2 ÷ 4**

* 1. **– 1.55 = 1.3**

**On your own:**

1. **-**  **÷ (-** **) 2.**  **÷ (- 2** **) 3. -** **•**

**4. -** **• 7**  **• 5. 1**  **÷ (-**  **) + (- 2** **)**

**Lesson 2.4b Multiplying & Dividing Fractions**

EQ: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Key Idea:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**DIFFERENT SIGNS = NEGATIVE ANSWER**

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