**Lesson 21 Notes: Multiplication of Rational Numbers**

**Answer Key**

A fraction!

**What is a Rational Number?**

**Multiplication of Rational Numbers**

There is a major difference between the outcome of multiplying by a whole number and the outcome of multiplying by a fraction!!!

A common **misconception** among students is that “multiplication makes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”.

bigger

10 X 2 = 20

This is not true when multiplying with fractions!!

10 X = 5

For example, when you multiply a whole number times a fraction (less than 1) or vice versa, the product is less than the whole number being used in the multiplication!



Multiply numerator x numerator

Multiply denominator x denominator

REDUCE!

\* Any mixed numbers, convert to improper fractions first!

\* You may choose to reduce first, and then multiply straight across

**Multiplication of Rational Numbers**

The “rule” for multiplying whole numbers and fractions, fractions with fractions, and mixed numbers:

**Directions:** Find the product of each of the examples below. Show work. Reduce all answers. Write answer as improper fraction AND mixed number (if possible).

**Example A:**   = \_\_\_\_\_\_

**Example B:**   = \_\_\_\_\_\_

**Example C:**  = \_\_\_\_\_\_

**Example D:**   = \_\_\_\_\_\_

**Example E:**  = \_\_\_\_\_\_

**Example F:**   = \_\_\_\_\_\_

**Example G:**   = \_\_\_\_\_\_

**Example H:**  = \_\_\_\_\_\_ **Example I:**   = \_\_\_\_\_\_

**Example J:**   = \_\_\_\_\_\_

**Example K:**  = \_\_\_\_\_\_

**Example L:**  = \_\_\_\_\_\_