

## MAT 0018

### In the Learning Commons:

**Face-to-face Assistance:** The Learning Commons provides face-to-face assistance on Foundations math problems and study strategies.

**Handouts:** The Learning Commons offers handouts to help students understand important concepts in Foundations for College Math 1.

**Hands-on items** are available at the Learning Commons such as fraction activities.

### Online:

The Learning Commons provides online tutoring through a service called Smarthinking. You can find the button to reach it in your canvas shell. This connects you to a live person via chat. You can upload pictures of problems or just type them in, and they will guide you through.

### Order of Operations

<b>Please</b>	<b>P</b>	Parentheses and Grouping Symbols (inside first)
<b>Excuse</b>	<b>E</b>	Exponents
<b>My Dear</b>	<b>M</b> <b>D</b>	Multiplication or Division from left to right
<b>Aunt Sally</b>	<b>A</b> <b>S</b>	Addition or Subtraction from left to right

Place Value												
Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths	Ten-thousandths	Hundred-thousandths	

## MAT 0018

### Operations with Fractions

**Multiplication:** Multiply the numerators and put that result over the multiplication of the denominators. Always check to see if the fraction reduces (any common terms in top & bottom)

**Division:** *Keep Change Flip.* Keep the top of the fraction, change the process to multiplication and then flip the denominator. Then follow the rules for multiplication.

**Addition/Subtraction:** This is the only time you need a common denominator or LCM. Identify the LCM or the common denominator. Write each fraction as an equivalent fraction so that the both have the LCM in the denominator. Add or subtract as needed. Don't forget to check for any reducing to get to simplest terms.

### Operations with Signed Numbers (Integers)

Rules for **ADDING**

1. When adding two numbers with the **same sign**, ADD, and **keep the same sign**.
2. When adding two numbers with **different signs**, find the difference (SUBTRACT) and **keep the "bigger" sign**.

Rules for **SUBTRACTING**

1. Change the subtraction sign to an addition sign AND change the sign of the second number.  $-(-8) \rightarrow 8$ ,  $-8 \rightarrow + -8$
2. Follow the above rules for adding signed numbers.

Rules for **MULTIPLYING (or DIVIDING)**

1. When multiplying (or dividing) two numbers with the **same sign**, the result will be positive.
2. When multiplying (or dividing) two numbers with **different signs**, the result will be negative.