FRACTION FACT SHEET

Fundamental Principle of Fractions

If $\frac{a}{b}$ *is a fraction and c is an nonzero Real number, then* $\frac{a}{b}\cdot\frac{c}{c}=\frac{a}{b}$

Multiplication

$$\frac{a}{b}\cdot\frac{c}{d}=\frac{a\cdot c}{b\cdot d}$$

Division(think Keep, Change, Flip)

$$\frac{a}{b}\div\frac{c}{d}=\frac{a}{b}\cdot\frac{d}{c}$$

- **Alternate Form (a Complex Fraction)**

$$\frac{\frac{a}{b}}{\frac{c}{d}}=\frac{a}{b}\div\frac{c}{d}=\frac{a}{b}\bullet\frac{d}{c}=\frac{a\bullet d}{b\bullet c}$$

Addition/Subtraction of Fractions with LIKE Denominators

$$\frac{a}{b}\pm\frac{c}{b}=\frac{a\pm c}{b}$$

Addition/Subtraction of Fraction with UNLIKE Denominators

$$\frac{a}{b} \pm \frac{c}{d} = \frac{a \cdot d \pm b \cdot c}{b \cdot d}$$