SIMPLIFYING FRACTIONS

*Simplify means to write in lowest terms (make fraction as small as you possibly can).

**Example: $\frac{5}{15}$ (to simplify follow these steps):

(1) Find the factors of 5 and 15.

5→(1, 5) 15→(1, 3, 5, 15)

This means the greatest common factor (GCF or highest number they share in common is 5).

(2) Now divide both the numerator (top #) and the denominator (bottom #) by the GCF.

$\frac{5}{15} \div \frac{5}{5} = \frac{1}{3}$

* Your fraction is now simplified if there are no more numbers in common other than the #1.

EQUIVALENT FRACTIONS

* Equivalent is another word for Equal so equivalent fractions are fractions that equal the same amount.
(Just like 4+6 and 5+5 are equal fractions can be also)

**Example: Find equivalent fractions for $\frac{12}{36}$:

(1) If a fraction is not in simplest terms you can create equivalent fractions by simplifying (divide) the fraction:

$\frac{12}{36} \div \frac{12}{12} = \frac{1}{3}$ or $\frac{12}{36} \div \frac{6}{6} = \frac{2}{6}$ or $\frac{12}{36} \div \frac{3}{3} = \frac{4}{12}$

(2) If a fraction is already simplified you can multiply your fraction to create equivalent fractions:

$\frac{12}{36} \times \frac{2}{2} = \frac{24}{72}$ or $\frac{12}{36} \times \frac{3}{3} = \frac{36}{108}$

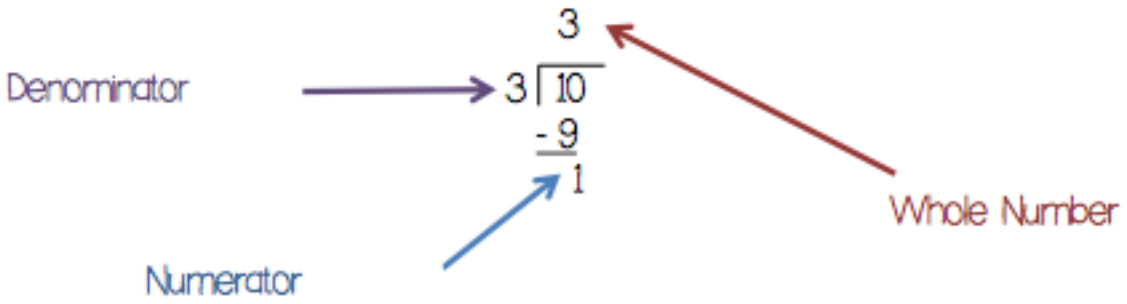
**Keep in mind (the most important rule when it comes to fractions is): WHATEVER YOU DO TO THE TOP NUMBER (NUMERATOR), YOU MUST DO TO THE BOTTOM NUMBER (DENOMINATOR) AND VICE VERSA.

CHANGING IMPROPER FRACTIONS TO MIXED NUMBERS

* An improper fraction is a fraction where the numerator (top #) is larger than the denominator (bottom #). Improper fractions must be simplified to a mixed number.

**Example: $\frac{10}{3}$

(1) Start by dividing the denominator into the numerator (Divide 10 by 3)



(2) So $\frac{10}{3}$ as a mixed number is $3\ \frac{1}{3}$

CHANGING MIXED NUMBERS TO IMPROPER FRACTIONS

* It is important to know how to change a mixed number to an improper fraction for certain math skills.

**Example: $4\ \frac{2}{3}$ to an improper fraction

(1) First, to get the new numerator you must multiply the whole number by the denominator:

$$4 \times 3 = 12$$

(2) Second, Add numerator to the product of your problem:

$$12 + 2 = 14$$

(3) Finally, place the new numerator on top pf the denominator. (It is important to remember that the denominator always stays the same)

(4) So $4\ \frac{2}{3}$ as an improper fraction is $\frac{14}{3}$