**Section 1 Guided Notes: Fraction Concepts Review**

* A fraction is a ratio. The top number is called the numerator and the bottom number is called the denominator. In , 3 is the numerator and 4 is the denominator.
* When there are no common factors between the numerator and denominator, the fraction is considered to be in simplest form.
* When the larger digit is in the numerator, like , it is considered an improper fraction. Improper fractions should be written as mixed numbers. When a whole number is written in front of the fraction, it is called a mixed number. To change an improper fraction to a mixed number, divide the numerator by the denominator to get the whole number. The remainder is the numerator and the denominator does not change.

Examples: Write each as a mixed number.

= = =

* For certain operations, you will need to change mixed numbers into improper fractions in order to solve them. To change a mixed number to a fraction, multiply the denominator by the whole number and add the numerator to the result. This is your new numerator. The denominator stays the same.

Examples: Write each mixed number as an improper fraction.

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**Section 2 Guided Notes: Greatest Common Factor and Simplifying Fractions**

The greatest common factor, or GCF, is the largest factor of all the numbers in the set. You can also look at it as the largest number that divided evenly into all of the numbers. Being able to find the GCF allows you to simplify fractions.

To simplify a fraction, you must find the GCF of the numerator and denominator, divide both numbers by the GCF, and write down the result of each division problem.

Examples: Simplify each fraction.

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**Section 3 Guided Notes: Multiplying and Dividing Fractions**

When multiplying fractions, you must first change any mixed numbers to improper fractions. Then, multiply the numerators, multiply the denominators, and simplify. Answers should always be written in simplest form.

Guided Examples: Multiply each pair of fractions.

  

 

When dividing fractions, you must first change any mixed numbers to improper fractions. Then, leave the first fraction alone, change the division to multiplication, and write the second fraction as its reciprocal (flip). You can now solve it like the previous multiplication examples.

Guided Examples: Divide each pair of fractions.

 ÷  =  ÷  =  ÷  =

1 ÷ 2 = 2 ÷ 1 =

**Section 4 Guided Notes: Adding and Subtracting Fractions**

When adding or subtracting fractions with the same denominator, add or subtract the numerators and bring over the denominator. Always be sure to simplify your answer.

 +  =  -  =  +  =

Unlike multiplication and division, you MUST have like denominators in order to add or subtract fractions. You must find the least common multiple, or LCM, to create fractions with like denominators. Then, solve the problems like the examples above. DAD (Don’t add denominators!).

 +  =  -  =  +  =

 +  = -  =  +  =

**Section 5 Guided Notes: 1-Step and 2-Step Equations**

The goal of solving any equation is to find the value of the variable by getting it alone on one side of the equation. Get in the habit of showing your work. Next year, no work = no credit!

Guided 1-Step examples:

You can solve any **1-step** equation by doing the opposite of whatever is being done to the variable.

x + 2 = 23 y – 8 = 27 5n = 25  = 5

Guided 2-Step examples:

To solve a **2-step** equation, remove any number that is being added or subtracted first. Then, undo multiplication and/or division.

2x + 2 = 24 3y – 8 = 22  + 10 = 14  - 1 = 5

**Section 6 Guided Notes: Converting Fractions to Decimals**

A fraction is a division problem. To convert a fraction to a decimal, divide the numerator by the denominator using the standard form of long division.

Guided examples: Convert each fraction to a decimal.

  

  

**Section 7 Guided Notes: Adding and Subtracting Decimals**

When adding and subtracting decimals the most important thing to remember is to line up your decimal points so the place values match. Once you have rewritten the problem, simply add or subtract the digits.

7.21 + 3.74 = 12.56 + 2.05 = 0.123 + 7.4 =

7.21 – 3.74 = 12.5 – 2.05 = 123.4 - 4.001 =

**Section 8 Guided Notes: Multiplying Decimals**

Unlike addition and subtraction, you do not need to line up the decimal points. To make it easier, rewrite the problem so the number with more digits is on the top and multiply traditionally – NO lattice. Once you get the answer, count how many digits are behind the decimal point in the problem and make sure the same number of digits are behind the decimal point in the solution.

Guided examples: Multiply each pair of decimals.

3.24 \* 7.1 = 23.42 \* 40.2 = 1.25 \* 4.005 =

**Section 9 Guided Notes: Dividing Decimals**

You will use long to division to divide decimals. The first number is the dividend (number on the inside). The second number is the divisor (number on the outside). The divisor must be a whole number. If it is not, move the decimal point to the end of the number. You must move the dividend’s decimal the same number of places. In your final answer, just bring the decimal point straight up.

45.1  1.1 = 4.26  42.6 = 9.52  2.8 =

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-8 + 9 = 1 8 + -9 = -1