**UNIT 2: Fractions**

*TOPICS:*

* *Review A – Equivalent Fractions + Lowest Terms*
* *Review B – Improper/ Mixed Numbers*
* *Review C – Fractions as Percentages + Decimals*
* *2.1 Comparing Fractions*
* *2.3 Adding Fractions with Fraction Strips*
* *2.4 Subtracting Fractions with Fraction Strips*
* *2.7 Adding and Subtracting Fractions with Number Lines*
* *2.9 Adding and Subtracting Fractions*
* *2.10 Adding and Subtracting Mixed Numbers*

**Review A – Equivalent Fractions + Lowest Terms**

**Equivalent** – Means equal. In math, this is represented with an equal sign (=).

Johnny has 5 candies and is given 3 more. He then splits all his candies with his friend. How many does each person get?

5 + 3 = 8 ÷ 2 = 4 candies each 🡪 This is an incorrect math statement.

5 + 3 is not equal to 4.

Instead write 5 + 3 = 8, then 8 ÷ 2 = 4 candies each or (5 + 3) ÷ 2 = 4

**Equivalent Fractions** – Two fractions that have the same value. The ratios of numerator to denominator is the same.

🡪 1 ÷ 2 = 0.5 and 4 ÷ 8 = 0.5 *Numerator – top of fraction*

*Denominator – bottom of fraction*

Ex. 1) Write 3 equivalent fractions for

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ex. 2) Find the missing number.

1. b.) c.)

**Lowest Terms** – The form of a fraction in which the numerator and denominator have no common factor other than 1.

Ex. 3) Which are the following are in lowest terms?

1. b.) c.) d.)

Ex. 4) Write each fraction in lowest terms.

1. = b.) = c.) d.)

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Review B – Improper/ Mixed Numbers**

**Proper Fraction** – The numerator is smaller than the denominator. The fraction has a value less than 1.

**Improper Fraction** – The numerator is larger than the denominator. The fraction has a value greater than 1.

**Whole Number** – The numerator is a whole number multiple of the denominator.

**Mixed Number** – A mix of a whole number and proper fraction.

Ex. 1) Indicate if the following numbers are proper fractions, improper fractions, whole numbers, or mixed numbers.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b.) c.) 2

d.) 3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ e.)

**Improper Fractions 🡪 Mixed Numbers**

Ex. 2) means 13 ÷ 5 13 ÷ 5 = 2 R3 🡪

Ex. 3) means 21 ÷ 6 21 ÷ 6 = 3 R3 🡪 = (lowest terms)

Ex. 4) Write each improper fraction as a mixed number in lowest terms.

1. b.) c.).

**Mixed Numbers 🡪 Improper Fractions**

Ex. 5) 2 wholes are the same as (THINK 2 x 5 = 10)

Ex. 6) Write each mixed number as an improper fraction in lowest terms.

1. b.) c.).

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Review C –** **Fractions as Percentages + Decimals**

Diagram

Description automatically generated

**Fractions 🡪 Decimals**

Ex. 1) Write the following as a decimal.

1. b.) c.)

d.) e.) f.)

Ex. 2) Write the following as a decimal.

1. b.) = c.)

Ex. 3) Convert to a fraction over 10, 100, 1000 then write as a decimal.

1. b.) c.)

Ex. 4) Divide the numerator by the denominator to find the decimal value.

1. b.)

**Fractions 🡪 Percentage *Remember:***

***% means ÷ 100***

Ex. 5) Write the following fractions as a percentage.

1. b.)

c.) d.)

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.1 Comparing Fractions**

**Symbols**:

> 🡪 greater than < 🡪 Less than = 🡪 equal to

**Strategies:**

Ex.1) Find a common denominator using LCM to compare.

1. b.) c.)

Ex. 2) Write each fraction by drawing on a number line.

a.)

b.)

Ex.1) Find a common numerator to compare.

1. b.) c.)

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.3 Adding Fractions with Fraction Strips**

Ex. 1) Estimate the following sums using fraction strips.

a.) = b.) = c.) =

Ex. 2) Add each of the following using fraction strips.

a.) b.) = c.) =

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.4 Subtracting Fractions with Fraction Strips**

Ex. 1) Estimate the following sums using fraction strips.

a.) = b.) = c.) =

Ex. 2) Subtract each of the following using fraction strips.

a.) b.) = c.) =

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.7 Adding and Subtracting Fractions with Number Lines**

Ex. 1) Plot the following equations on the number line, then evaluate.

1. b.) c.)

(a)

(b)

(c)

Ex. 2) Plot the following equations on the number line, then evaluate. Remember that subtraction is the distance between two points on a number line.

1. b.) c.)

(a)

(b)

(c)

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.9 Adding and Subtracting Fractions**

**KEY**: *Do not add or subtract two or more fractions unless they share a common denominator.*

Ex. 1) Find the LCM of the denominators, then evaluate the following expressions.

1. b.) c.)

Ex. 2) Find the LCM of the denominators, then evaluate the following expressions.

1. b.) c.)

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.10 Adding and Subtracting Mixed Numbers**

Ex. 1) Add/Subtract the mixed fractions and the whole number.

1. b.) c.)

Ex. 2) Add/subtract the mixed fraction.

**STEPS**:

* Change mixed number to improper fraction.
* Do they have the same denominator? If not, find the LCM.
* Add/subtract the top numbers of the fraction.
* Reduce to lowest terms and change to mixed number if required.

1. b.) c.)

d.) e.) f.)

ASSIGNMENT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_