Notes: Rational Numbers

created for you by Ms. Whatsavbanh

Definitions:

Rational Numbers – numbers that can be written as a fraction.

Numerator - the number on top in a fraction.

Denominator - the number on the bottom in a fraction.

Least Common Multiple - the smallest number that is in common with two or more numbers.

Least Common Denominator - the smallest number that is a multiple of both denominators in a pair of fractions.

LCM=14

Example: $\frac{1}{2} + \frac{3}{7}$

List the multiples of 2: 2, 4, 6, 8, 10, 12, 14

List the multiples of 7: 7, 14, 21, 28

$\frac{(7)1}{(7)2} + \frac{3(2)}{7(2)}$

$\frac{7}{14} + \frac{6}{14} = \frac{13}{14}$

Name: Key

Math 7H – Period: 8

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Adding and Subtracting Fractions with LIKE Denominators

nplest Form – the form of a fraction when the GCF of the merator and denominator is 1.

MAKE ALL MIXED NUMBERS INTO IMPROPER FRACTIONS!

eps to solve fractions with like denominators: Add or subtract the merators of the fractions Keep the denominator the me. Simplify (simplest form) the swer (includes changing improper ctions into mixed numbers).	Ex: $\frac{2}{5} + \frac{1}{5} = \frac{2+1}{5} = \frac{3}{5}$ Ex: $\frac{3}{5} - \frac{1}{5} = \frac{3-1}{5} = \frac{2}{5}$

Adding and Subtracting Fractions with UNLIKE Denominators

Steps to solve fractions with UNLIKE denominators:

CHANGE ANY **MIXED** NUMBERS INTO **IMPROPER** FRACTIONS

Find the LCD (least common denominator) of the fractions

o find out what you need to multiply the old denominator by to get new denominator, **multiply** the top number (numerator) by the same mber you multiply the bottom number (denominator) by.

Add/Subtract the numerators of the fractions

Keep the denominator the same

Simplify (includes changing any improper fractions into mixed numbers)

ample: $\frac{1}{10} - \frac{3}{5}$ ** convert with same denominator $\frac{3(2)}{5(2)} = \frac{6}{10}$

$\frac{1}{10} - \frac{6}{10} = -\frac{5}{10}$ **follow integer rules

Directions: Combine the rational numbers. Leave answers in simplest form.

1. $\frac{4}{5} + \frac{11}{15}$ LCD = 15

$\frac{12}{15} + \frac{11}{15} = \frac{23}{15}$ improper fraction → change to a mixed #

or $1\frac{8}{15}$

$12 + 11 = 33$

$23 - 15 = 8$

2. $9\frac{1}{8} - 1\frac{3}{5}$ LCD = 40

$\frac{73}{8} - \frac{8}{5}$

$\frac{365}{40} - \frac{64}{40} = \frac{301}{40}$ improper fraction

or $7\frac{21}{40}$ mixed #

$73 \times 5 = 365$

$365 - 64 = 301$

$301 \div 40 = 7$, 280, 21

3. Faith is recording the distance traveled each day by her pet turtle. On the first day, the turtle travels $2\frac{3}{8}$ inches. On the second day, it travels $\frac{3}{4}$ inch. What is the total distance traveled by the turtle? add

LCD = 8

$2\frac{3}{8} + \frac{3}{4}$

$\frac{19}{8} + \frac{3}{4}$

$\frac{19}{8} + \frac{6}{8} = \frac{25}{8}$ improper fraction

$3\frac{1}{8}$ mixed #