# M7 Notes(Lesson 1-2) (Complex Fractions and Unit Rates)

Date

### Review Multiplication of Fractions

- \*Write both numbers in "fraction" form
- \*Try to "simplify" factors in pumerator with factors in denominator

- \*Multiply numerators, Multiply denominators.
- \*Check that answer is simplified (no improper fractions and no common factors).

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## Complex fractions are fractions with one or more fractions (or decimals) in the numerator, denominator, or both. Complex fractions are simplified when both the numerator and denominator are integers. 1.5

Integers = Whole #'s + Their Opposites  $\{...-2,-1,0,1,z,...\}$ 

To simplify a complex fraction, rewrite it as a division problem.

## Examples

$$\frac{\frac{5}{8}}{\frac{15}{16}} = \frac{5}{8} + \frac{15}{16}$$

$$\frac{\frac{3}{5}}{10} = \frac{3}{5} + \frac{10}{10}$$

$$\frac{3}{5} + \frac{10}{10}$$

$$\frac{3}{5} + \frac{10}{10}$$

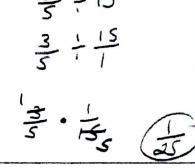
$$\frac{3}{5} + \frac{10}{10}$$





#### Review Division of Fractions

- "Write both numbers in "fraction" form
  - \*1st # stays the same Keep
  - \*Change + sign to sign
  - \*Write the reciprocal of the 2nd number
- \*Try to "simplify" factors in numerator with factors in denominator
- \*Multiply numerators, Multiply denominators
- \*Check that answer is simplified (no improper fractions and no common factors)



There are some percents that become complex fractions when we write them as a simplified ratio.

fractions when we write them as a simplified ratio.

$$9\frac{1}{6}\% = \frac{91}{100}$$
 $33\frac{1}{3}\% = \frac{1}{8}\% = \frac{1}{8$ 

Simplify		1 /
1	12 = %	68%
4 =	12= =	6 = 6 + 100
+ + 4 - Z	122 - 100	49 + 199
1-1-9	as + 100	
7 - 3	1 25 · 100 "	100
(27)	1	800

It takes Tia  $\frac{3}{4}$  hour to paint  $34\frac{1}{2}$  square feet. At this rate, how many square feet can she paint in an hour?

Sometimes the calculation of a <u>unit rate</u> requires the use of complex fraction concepts.

Jack jogs  $1\frac{1}{3}$  miles in  $\frac{1}{4}$  hour. Find his average speed in miles per hour.