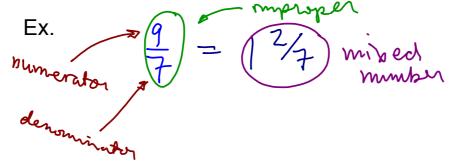
## **Fractions Review**

Equivalent fractions: we can obtain an equivalent fraction by  $\frac{\text{multiplying}}{\text{numerator AND the }}$  or  $\frac{\text{denominator}}{\text{denominator}}$  both the numerator AND the  $\frac{\text{denominator}}{\text{denominator}}$  by the same value.

Ex.  $\frac{15}{3}$  =  $\frac{5}{7}$  =  $\frac{7}{3}$  × 7 =  $\frac{11}{21}$ 

Mixed numbers, improper fractions and decimals: a fraction is improper when its \_\_\_\_\_\_\_ is greater than its \_\_\_\_\_\_\_ is greater than 1 and can be written as a mixed number.



changing a mixed number to an improper fraction

$$28/3 = 3 + 5 = (3 \times 6) + 5 = 28/6$$

· changing an improper fraction to a mixed number

ex/
$$\frac{17}{3}$$
 ~ how many times does 3  
 $\frac{17}{3} = 5\frac{7}{3} = 5\frac{2}{3}$ 

when you change a fraction (exact value) into a decimal, you often get an <a href="mailto:approximation">approximation</a>
 value. If you need an exact value, keep the fraction answer. Many calculators will will change a decimal answer into a fraction for you.

Adding and Subtracting: we need a wormon

$$\frac{\text{denominator}}{\text{Ex.}} = \frac{1 \times 3}{12} + \frac{8}{12}$$

$$= \frac{3}{12} + \frac{8}{12}$$

$$= \frac{11}{12}$$

$$= \frac{11}{12}$$

$$= \frac{3}{12} + \frac{8}{12}$$

$$= \frac{11}{12}$$

Mutiplying: we do not need a \_\_\_\_\_\_\_\_

Ex.  $\frac{2}{3} \times \frac{4}{5}$   $= \frac{2 \times 4}{3 \times 5} = \frac{8}{15}$   $= \frac{2 \times 4}{3 \times 5} = \frac{8}{15}$   $= \frac{11}{3} \times \frac{3}{2} = \frac{33}{62} = \frac{11}{2}$   $= \frac{2 \times 4}{3 \times 5} = \frac{8}{15}$ 

· simplifying first is always easier

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Ex. 
$$\frac{11}{3} \times \frac{3}{2} = \frac{11 \times 3}{3 \times 2} = \frac{3 \times 11}{3 \times 2} = \frac{3}{3} \times \frac{11}{2} = \frac{11}{2}$$

ex.  $\frac{11}{3} \times \frac{3}{2} = \frac{11 \times 3}{3 \times 2} = \frac{3 \times 11}{3 \times 2} = \frac{3}{3} \times \frac{11}{2} = \frac{11}{2}$ 

ex.  $\frac{25}{7} \times \frac{417}{95} = \frac{35}{9}$ 

ex.  $\frac{312}{7} \times \frac{8}{7} \times \frac{85}{7} \times \frac{11}{7} \times \frac{11$ 

**Dividing**: instead of dividing, we can always multiply by the <u>reciprocal</u>.

## Recall:

- > the reciprocal of  $\frac{2}{3}$  is  $\frac{3}{2}$
- > the reciprocal of  $\frac{2}{!}$  is  $\frac{1}{?}$
- > the reciprocal of  $\frac{-5}{1}$  is  $\frac{1}{5} = \frac{-1}{5} = -\frac{1}{5} = -0.2$
- > the reciprocal of  $\frac{-1}{3}$  is  $\frac{-3}{3}$

Ex. 
$$\frac{2}{3}$$
 =  $\frac{2}{3}$   $\frac{1}{2}$   $\frac{2}{3}$   $\frac{1}{3}$   $\frac{2}{3}$   $\frac{1}{3}$   $\frac{2}{3}$   $\frac{1}{3}$ 

Ex. 
$$\frac{2}{3} = \frac{2}{3} \div \frac{1}{2}$$

=  $\frac{2}{3} \times \frac{2}{1}$ 

=  $\frac{19}{4} \times \frac{3}{4}$ 

=  $\frac{19}{4} \times \frac{3}{4}$ 

=  $\frac{19}{4} \times \frac{3}{4}$