

## WWK page 8

**Rational numbers:** set of all #'s which can be expressed in the form  $\frac{a}{b}$ , where  $a$  &  $b$  are integers &  $b \neq 0$ .

$$\frac{1}{2} \text{ or } \frac{3}{4} \text{ or } \frac{5}{7} \text{ or } 9\frac{3}{4}$$

**Numerator:** # on top of the fraction

$$\frac{a}{b} \leftarrow \text{numerator}$$

**Denominator:** # on bottom of the fraction


$$\frac{a}{b} \leftarrow \text{denominator}$$

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### TOC 23 Rational Numbers


\* to reduce a rational # to its

lowest terms, divide both the numerator and denominator by their GCD.

Mixed #  $\rightarrow$  Improper fraction

1) Multiply the denominator of the fraction by the integer and add the numerator to this product.

2) Place the sum from step 1 over the original denominator

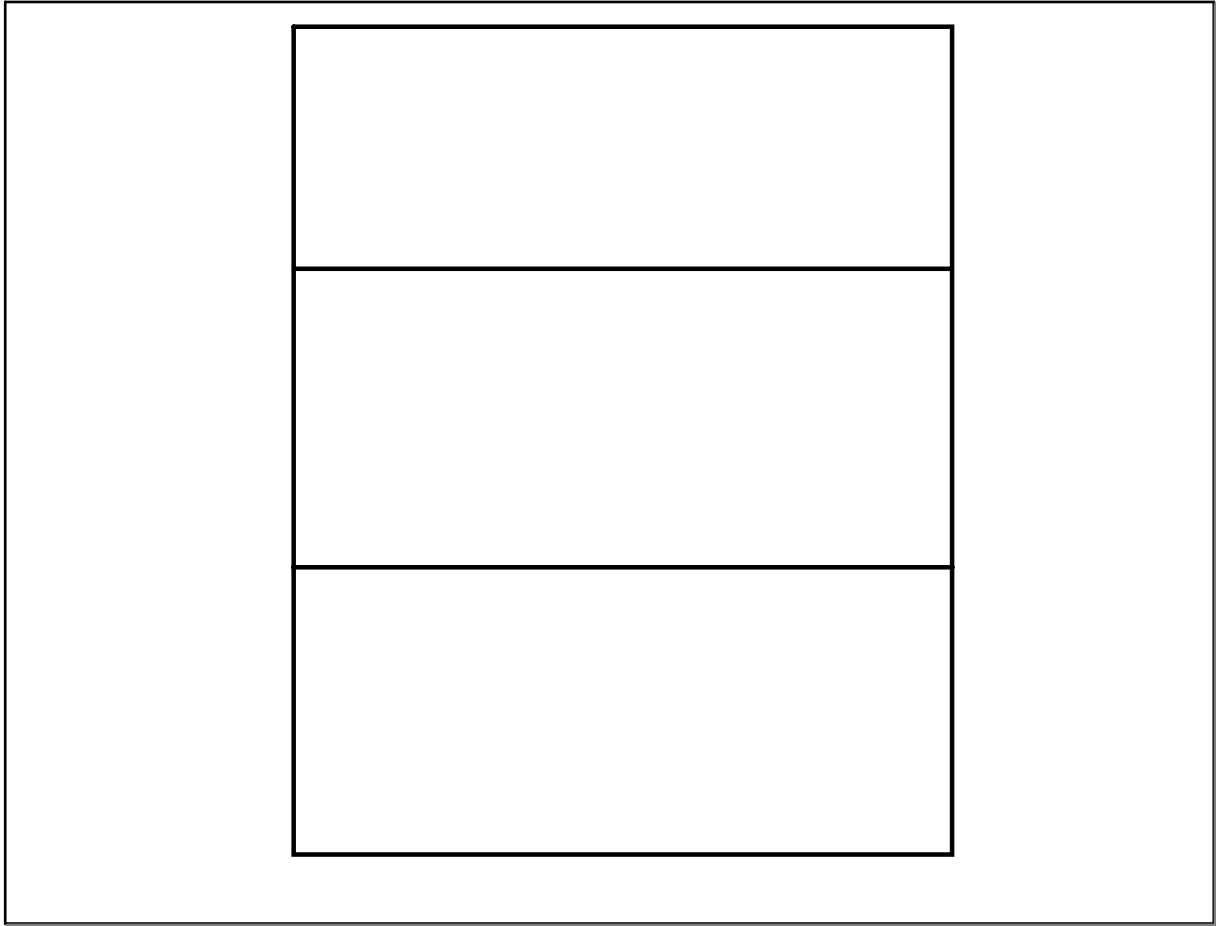

$$\text{Ex: } 3\frac{4}{5} = \frac{5 \times 3 + 4}{5} = \frac{15 + 4}{5} = \frac{19}{5}$$

Improper fraction - Mixed number

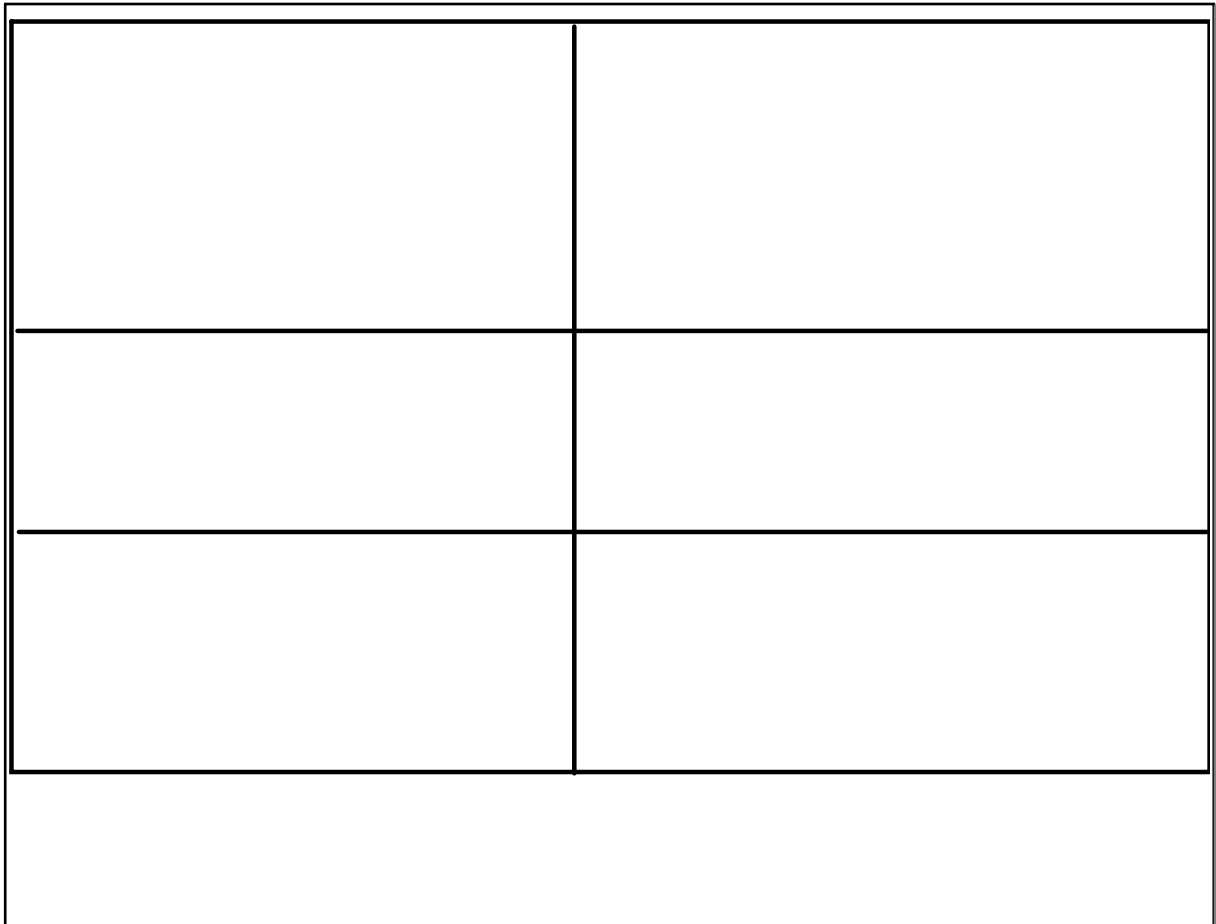
1) Divide the denominator into the numerator.

2) Write the mixed number using the quotient  $\frac{\text{remainder}}{\text{original denominator}}$

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Example 1: Reduce \_\_\_\_\_ to the lowest terms

Example 2: Convert to an improper fraction

Example 3: Convert to a mixed number

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Example 4: Multiply. Reduce if possible.

a)  $\frac{3}{8} \cdot \frac{5}{11}$

b)  $(-\frac{2}{3})(-\frac{9}{4})$

c)  $(3\frac{2}{3})(1\frac{1}{4})$

Example 5: Divide. Reduce if possible.

a)  $\frac{4}{5} \div \frac{1}{10}$

b)  $-\frac{3}{5} \div \frac{7}{11}$

c)  $4\frac{3}{4} \div 1\frac{1}{2}$

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