

# **Converting Fractions and Decimals**

\*\*\*Fractions and decimals are two different ways of describing amounts less than 1 or in between whole numbers.\*\*\*



## **Converting Decimals to Fractions:**

Convert the following decimal numbers to fractions or mixed numbers in simplest form.

Example 1: 0.8 = 10 = 2 4 10 = 2 5 Example 2: 41.006 11 41 and 6 thou sand ths 41 6 = 210 -2 = 41  $\frac{3}{500}$ Converting Fractions to Decimals: Method 1: Equivalent Fractions or Ratio Tables! Example 3:  $\frac{3}{25} = 0.12$ Example 4:  $8\frac{144}{400} = 8.36$   $\frac{144}{400} = 8.36$   $\frac{144}{400} = 8.36$  $\frac{144}{400} = 8.36$ 

## Method 2: Division

To convert from a fraction to a decimal, divide the <u>numerator</u> by the <u>denominator</u> You may need to go several places past the decimal point.

What types of decimals may I run into while converting with fractions and decimals?

A **terminating decimal** is a decimal number that *terminates*, or ends.

Examples: 0.4, 0.075, 1.0002

A **repeating decimal** is a decimal number that contains a pattern of digits in the decimal places that repeats forever.

Examples: 0.3333333...., 0.6767676767...

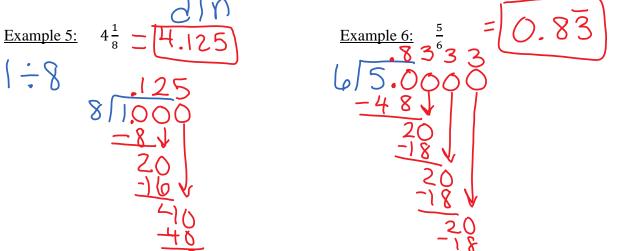
### How do we write repeating decimals?

We can use **bar notation** to show that the decimal repeats forever without actually writing out the numbers forever... *nice, right*?!

### Rewrite the following decimals using bar notation.

a) 
$$0.7777777...= 0.7$$
  
b)  $31.5858585858...= 31.58$   
c)  $8.765476547654...= 8.76547$   
d)  $0.3194444444...= 0.319444444$ 

Convert the fractions and mixed numbers to decimals. Write repeating decimals using bar notation.



*Now you try!* Write decimals as fractions in simplest form and fractions as decimals. Write repeating decimals using bar notation.

