Lesson 2.1a

Fractions & Mixed Numbers as Decimals

EQ: How do we write **FRACTIONS** and **MIXED NUMBERS** as <u>DECIMALS</u>?

Rational Number- a number that can be written as $\frac{a}{b}$ where a & b are integers and b $\neq 0$.

Terminating Decimal— a decimal that ends ex: 1.5, -0.25, 10.63

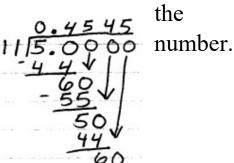
Repeating Decimal- a decimal that has a pattern that repeats.

Writing a FRACTION as a DECIMAL

Step 1- Using long division, divide the TOP

number by BOTTOM

Ex. $\frac{5}{11}$



Step 2- Stop when the remainder is 0, or continue 4 places past the decimal to see if the decimal repeats or stops.

Ex: .4545 repeats
$$\rightarrow .\overline{45}$$
 so, $\frac{5}{11} = .\overline{45}$

Writing a MIXED NUMBER as a DECIMAL

Step 1- Convert the mixed number to a fraction.

- a. Multiply the whole number by the denominator.
- b. Add the product to the numerator.
- c. Place the sum as the numerator over the original denominator.

Ex:
$$2\frac{1}{4} \rightarrow a$$
. $2 \cdot 4 = 8 \rightarrow b$. $8 + 1 = 9 \rightarrow c$. $\frac{9}{4}$

Step 2- Follow the steps for writing a fraction as a decimal.

Ex.
$$\frac{9}{4}$$
 $\frac{2.25}{4[9.00]}$ $24 = \frac{9}{4} = 2.25$ $\frac{-8}{4}$ $\frac{-10}{20}$ $\frac{-10}{20}$

ON YOUR OWN: *IN YOUR NOTEBOOK*

Write each as a DECIMAL.

1.
$$-\frac{6}{5}$$

2.
$$-7\frac{3}{8}$$

$$3.\frac{3}{11}$$

4.
$$1\frac{5}{27}$$