November 5, 2014 ^{4th}

Starter

11/5 - Dividing Rational Numbers - Fractions

Discuss with your partners:

How are multiply and divide related?

You use times tables in both

They are opposites

One is the reverse of the other

Batman Rules

PEMDAS

Both are used w/ fractions + decimals

Use one to check the other

Work with your partners:

Give the <u>reciprocal</u> of each number:

"flip it over"

$$\frac{2}{3} \qquad \frac{1}{4} \qquad -\frac{3}{5} \qquad \frac{-6}{7}$$

$$\frac{3}{2} \qquad 4 \qquad -\frac{5}{3} \qquad \frac{-1}{6}$$

Leave negative on the top

To divide fractions, flip the SECOND fraction over and then multiply instead of divide.

This is also referred to as "multiply by the reciprocal"

Divide:

$$\frac{2}{3} \div \frac{1}{2}$$

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

$$= \frac{4}{3} = 1\frac{1}{3}$$

$$\frac{3}{8} \div \frac{6}{7}$$

$$= \frac{3}{8} \cdot \frac{7}{6}$$

$$= \frac{7}{16}$$

$$\frac{-3}{4} \div \frac{1}{2}$$

$$= \frac{-3}{4} \cdot \frac{2}{1}$$

$$= \frac{-3}{2}$$

$$= -1\frac{1}{2}$$

$$\frac{-5}{6} \div \frac{-8}{9}$$

$$= \frac{-5}{6} \cdot \frac{-9}{8}$$

$$= \frac{15}{16}$$

Divide:

$$6 \div \frac{-2}{3} \qquad \frac{3}{4} \div {}^{-}6$$

$$= \frac{6}{1} \cdot \frac{-3}{2} \qquad = \frac{3}{4} \cdot \frac{-1}{6}$$

$$= \frac{-9}{1} \qquad = \frac{-1}{8}$$

$$= {}^{-}9$$

Divide. Write answers in simplest form. **Use BATMAN rules!**

$$-2\frac{2}{3} \div 2\frac{2}{5}$$

$$= -\frac{8}{3} \div \frac{12}{5}$$

$$= -\frac{8}{3} \cdot \frac{5}{12}$$

$$= \frac{-8}{9} = -1\frac{1}{9}$$

$$5\frac{7}{9} \div -1\frac{3}{10}$$

$$= \frac{52}{9} \div \frac{-13}{10}$$

$$= \frac{52}{9} \cdot \frac{-10}{13}$$

$$= \frac{-40}{9}$$

$$= -4\frac{4}{9}$$

$$9\overline{)40} \quad 4$$
$$\underline{36}$$
$$4$$

Homework

Lilac WS11

Due Friday