

November 3, 2014

1st
2nd

No starter today! Instead, get out any assignment that needs to be corrected or scored.



11/3 - Dividing Rational Numbers - Fractions

Discuss with your partners:

How are multiply and divide related?

opposite operations

related to groups

check one with the other

long divide uses multiply

PEMDAS

"Batman Rules"

Work with your partners: \rightarrow multiplicative inverse
"flip it over"
Give the reciprocal of each number:

$$\frac{2}{3}$$

$$\frac{1}{4}$$

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

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

$$\frac{3}{2}$$

$$4$$

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

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

Dividing fractions is as easy as pie:
when you flip the 2nd and multiply!

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:

$$\begin{aligned} & \frac{2}{3} \div \frac{1}{2} \\ &= \frac{2}{3} \cdot \frac{2}{1} \\ &= \frac{4}{3} \\ &= 1\frac{1}{3} \end{aligned}$$

$$\begin{aligned} & \frac{3}{8} \div \frac{6}{7} \\ &= \frac{3}{8} \cdot \frac{7}{6} \\ &= \frac{7}{16} \end{aligned}$$

$$\begin{aligned} & \frac{-3}{4} \div \frac{1}{2} \\ &= \frac{-3}{4} \cdot \frac{2}{1} \\ &= \frac{-6}{4} \\ &= \frac{-3}{2} \\ &= -1\frac{1}{2} \end{aligned}$$

$$\begin{aligned} & \frac{-5}{6} \div \frac{-8}{9} \\ &= \frac{-5}{6} \cdot \frac{-9}{8} \\ &= \frac{15}{16} \end{aligned}$$

Leave the negative on the TOP

Divide:

$$\begin{aligned} 6 \div \frac{-2}{3} &= \frac{6}{1} \cdot \frac{3}{-2} \\ &= \frac{18}{-2} \\ &= -9 \end{aligned}$$

$$\begin{aligned} \frac{3}{4} \div -6 &= \frac{3}{4} \cdot \frac{1}{-6} \\ &= \frac{-3}{24} \\ &= -\frac{1}{8} \end{aligned}$$

Divide. Write answers in simplest form.

Use **BATMAN** rules!

$$\begin{aligned} & -2\frac{2}{3} \div 2\frac{2}{5} \\ & = -\frac{8}{3} \div \frac{12}{5} \\ & = -\frac{8}{3} \cdot \frac{5}{12} = -\frac{10}{9} \\ & \text{(Get MAD)} = -1\frac{1}{9} \end{aligned}$$

$$\begin{aligned} & -3\frac{3}{4} \div -10 \\ & = -\frac{15}{4} \cdot -\frac{1}{10} \\ & = \frac{3}{8} \end{aligned}$$

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

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

Homework

White WS 8

Due Wed.