

Mathematics 9

Section 3.5 - Dividing Rational Numbers

Next we are going to look at dividing fractions when negatives are involved.

We need to remember the rules governing how we deal with positive and negative numbers.

We also need to look for possible simplification steps before we actually combine any rational number fractions.

Suppose we have:

$$-\frac{4}{5} \div \frac{2}{15}$$

Step 1: KISS AND FLIP

$$-\frac{4}{5} \times \frac{15}{2}$$

Step 2: SIMPLIFY IF POSSIBLE

$$\frac{-4 \div 2}{5 \div 5} \times \frac{15 \div 5}{2 \div 2}$$

$$= -\frac{2}{1} \times \frac{3}{1}$$

Step 3: MULTIPLY

$$-\frac{2}{1} \times \frac{3}{1} = -\frac{6}{1} = -6$$

Suppose we have: $\left(-4\frac{1}{5}\right) \div \left(-3\frac{1}{3}\right)$

Step 1: CONVERT TO IMPROPER FRACTIONS

$$\left(-\frac{21}{5}\right) \div \left(-\frac{10}{3}\right)$$

* MUST KISS & FLIP
BEFORE WE CAN
SIMPLIFY *

Step 2: KISS AND FLIP

$$\left(-\frac{21}{5}\right) \times \left(-\frac{3}{10}\right)$$

Step 3: SIMPLIFY IF POSSIBLE

(CANNOT IN THIS CASE)

Step 4: MULTIPLY

$$\left(-\frac{21}{5}\right) \times \left(-\frac{3}{10}\right) = \frac{-63}{-50} = \frac{63}{50}$$

$$= 1\frac{13}{50}$$

p. 134 #4ace, 9af, 11a, 12ace, 14, 18ab