1.5: Adding and Subtracting Rational Numbers

Warm-Up

Convert the following to decimals:

1. a) $4\dfrac{7}{11}$

b) $-\dfrac{12}{13}$

Convert the following to fractions in lowest terms:

2. a) -2.935

b) 5.025

To Be Negative or Not To Be Negative?

Rational numbers have an "overall sign":

> + (positive) if the fraction has an EVEN number of negative signs.

> - (negative) if the fraction has an ODD number of negative signs.

What's the Sign?

Fraction	$\dfrac{-a}{-b}$	$\dfrac{a}{-b}$	$-\dfrac{a}{-b}$	$-\dfrac{-a}{-b}$	$\dfrac{-a}{b}$
Sign					

Examples:

1. Put these in order from least to greatest:

$$-3\frac{1}{4}, \text{-2.87, 0.95, } -\frac{16}{3}, 1\frac{5}{8}, -1.\overline{4}$$

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Answer: $-\frac{16}{3}, -3\frac{1}{4}, \text{-2.87, } -1.\overline{4}, \text{0.95, } 1\frac{5}{8}$

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Helpful Tips for Adding and Subtracting Rational Numbers

1. Change mixed numbers into improper fractions. (When changing negative fractions to improper fractions, ignore the sign, make the change, then add the sign back.)

2. Rewrite the fractions with as few negative signs as possible.

3. Move negative signs to the numerators.

4. Where possible, keep fractions and avoid rounding for more accurate answers.

Do you know how to use the "-/+" key on your calculator?

Homework: RN#1 1-6