

Name: _____

Unlike Fractions

You know how to add and subtract fractions that have the same denominator (bottom). You just add or subtract the numerators (tops) and *keep* the same old denominator (bottom).

But what if you have two fractions with different denominators—how would you go about adding or subtracting them?

Let's say we want to add **$\frac{1}{2} + \frac{1}{3}$** . What can we do?

First off, *we can't do anything until the denominators are the **same**.* Remember this! We only add (or subtract) **like** fractions—fractions with the same denominator.

So what do we do? We find a common denominator for our fractions.

6 is the least (smallest) common multiple of 3 and 2, so we'll use **6** as our common denominator.

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

Change the $\frac{1}{2}$ to sixths:

$$\frac{1 \times 2}{2 \times 2} = \frac{2}{4}$$

Change the $\frac{1}{3}$ to sixths:

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

$$\text{So } \frac{1}{2} + \frac{1}{3} = \frac{2}{4} + \frac{2}{6} = \frac{4}{6}$$

Your turn:

$$\frac{2}{3} + \frac{1}{5} =$$

$$\frac{7}{10} - \frac{13}{20} =$$