Unit 3, Lesson 18

# A Lot of Fractions to Add

Let's add more than two fractions.

Warm-up

## Number Talk: A Bunch of Numbers

Find the value of each expression mentally.

- $54 + 2 + 18$
- $61 + 104 + 39$
- $25 + 63 + 75 + 7$
- $50 + 106 + 19 + 101$

Activity 1

## Stack Centavos and Pesos

Diego and Lin each have a small collection of Mexican coins.

The table shows the thickness of different coins in centimeters, cm, and how many of each Diego and Lin have.

| coin value | thickness in cm | Diego | Lin |
|---|---|---|---|
| 1 centavo | $\frac{12}{100}$ | 3 | 1 |
| 10 centavos | $\frac{22}{100}$ | 0 | 1 |
| 1 peso | $\frac{16}{100}$ | 0 | 1 |
| 2 pesos | $\frac{14}{100}$ | 0 | 1 |
| 5 pesos | $\frac{2}{10}$ | 1 | 1 |
| 20 pesos | $\frac{25}{100}$ | 2 | 1 |

1. If Diego and Lin each stack their *centavo* (sen-TAH-voh) coins, whose stack would be taller? Show your reasoning.

2. If they each stack their *peso* (PAY-soh) coins, whose stack would be taller? Show your reasoning.

3. If they each stack all their coins, whose stack would be taller? Show your reasoning.

4. If they combine their coins to make one stack, would it be more than 2 centimeters tall? Show your reasoning.

Activity 2

## More than Two Fractions

Find the value of at least 3 of the expressions. Show your reasoning.

1. $\frac{2}{100} + \frac{13}{10} + \frac{1}{10} + \frac{8}{100}$

2. $\frac{50}{10} + \frac{16}{100} + \frac{2}{10}$

3. $\frac{3}{10} + \frac{4}{100} + \frac{7}{10} + \frac{26}{100}$

4. $\frac{4}{100} + 3\frac{2}{10} + 1\frac{5}{10}$

5. $1\frac{1}{10} + 5\frac{2}{100} + \frac{78}{100}$

6. $2\frac{7}{10} + \frac{2}{100} + \frac{8}{10}$

## Section C Summary

We learned more ways to add fractions and to solve problems that involve adding, subtracting, and multiplying fractions.

We started by adding tenths and hundredths, using what we know about equivalent fractions. For example, to find the sum of $\frac{4}{10}$ and $\frac{30}{100}$, we can:

- Write $\frac{4}{10}$ as $\frac{40}{100}$, and then find $\frac{40}{100} + \frac{30}{100}$, or
- Write $\frac{30}{100}$ as $\frac{3}{10}$, and then find $\frac{4}{10} + \frac{3}{10}$.

We learned that when adding a few fractions, it may help to rearrange or group them. Example:

- $\frac{6}{100} + \frac{2}{10} + \frac{74}{100}$ can be rearranged as $\frac{6}{100} + \frac{74}{100} + \frac{2}{10}$.
- Next, the hundredths can be added first, giving $\frac{80}{100} + \frac{2}{10}$.
- Then we can write an equivalent fraction for $\frac{80}{100}$ and find $\frac{8}{10} + \frac{2}{10}$, or write an equivalent fraction for $\frac{2}{10}$ and find $\frac{80}{100} + \frac{20}{100}$.