Unit 3, Lesson 12

Sums and Differences of Fractions

Let's add and subtract fractions and analyze our strategies.

Warm-up

Number Talk: Subtract Some Eighths

Find the value of each expression mentally.

- $2\frac{3}{8} - \frac{3}{8}$

- $2\frac{3}{8} - \frac{5}{8}$

- $2\frac{3}{8} - 2$

- $2\frac{3}{8} - 1\frac{7}{8}$

Activity 1

Make It True

1. Find the number that makes each equation true. Show your reasoning.

   a. $\_\_\_\_\_ + \frac{2}{6} = 1\frac{1}{6}$

   b. $2\frac{4}{5} + \_\_\_\_\_ = 7\frac{1}{5}$

   c. $3 - 2\frac{1}{3} = \_\_\_\_\_$

   d. $4\frac{1}{12} - 2\frac{5}{12} = \_\_\_\_\_$

2. Write a sentence to describe your first step for finding the unknown value in each equation in the first problem.

   a. First step:

   b. First step:

   c. First step:

   d. First step:

3. Compare and reflect on your first steps with your group. Did you make the same moves?

   Discuss why you might have chosen the same way or a different way to start finding the missing values.

Activity 2

To Decompose or Not to Decompose

1. Here are some addition and subtraction expressions. Sort them into two groups, based on whether you think it would be helpful to decompose a number to find the value of the expression.

   A. $\frac{18}{5} - \frac{7}{5}$

   B. $\frac{1}{6} + \frac{9}{6}$

   C. $7 - 1\frac{3}{8}$

   D. $\frac{102}{100} + 5\frac{27}{100}$

   E. $2\frac{5}{12} + \frac{6}{12}$

   F. $6\frac{1}{10} - \frac{6}{10}$

   G. $3\frac{8}{100} + 4\frac{93}{100}$

   H. $5 - \frac{17}{12}$

   I. $1\frac{3}{10} + \frac{6}{10}$

   J. $\frac{17}{8} - 1\frac{7}{8}$

   - Not necessary or not helpful to decompose any number:
   - Necessary or helpful to decompose one or more numbers:

2. Choose at least one expression from each group and find their values. Show your reasoning.