Lesson 9
Add and Subtract Fractions

Here's How

Find the sum.

Add $\frac{4}{5}$ and $\frac{1}{2}$.

$\frac{4}{5} + \frac{1}{2} = ?$

These fractions do not have the same denominator.
Find the least common denominator.

\[
\begin{align*}
4 \times \frac{2}{2} & = \frac{8}{10} \\
\frac{1}{2} \times \frac{5}{5} & = \frac{5}{10} \\
\frac{4}{5} + \frac{1}{2} & = \frac{8}{10} + \frac{5}{10} = \frac{13}{10}
\end{align*}
\]

List the multiples to find the LCD.

$5: 5, 10, 15, 20, \ldots$
$2: 2, 4, 6, 8, 10, \ldots$

Rename each fraction using the LCD.

Multiply $\frac{4}{5}$ by $\frac{2}{2}$ to get $\frac{8}{10}$.

Multiply $\frac{1}{2}$ by $\frac{5}{5}$ to get $\frac{5}{10}$.

Now add $\frac{8}{10}$ and $\frac{5}{10}$ to get $\frac{13}{10}$.

Write $\frac{13}{10}$ as a mixed number.

The sum of $\frac{4}{5}$ and $\frac{1}{2}$ is $1 \frac{3}{10}$.

Try These

Find each sum or difference. Write the answer in lowest terms.

When adding or subtracting fractions with different denominators, find the LCD, rename each fraction with the common denominator, then add or subtract.

1. $\frac{1}{6} = \frac{4}{24}$
   
   $\frac{3}{4} = \frac{18}{24}$
   
   $\frac{4}{3} = \frac{12}{24}$
   
   $\frac{2}{4} = \frac{12}{24}$

2. $\frac{3}{4} = \frac{9}{12}$

3. $\frac{4}{5}$

4. $\frac{5}{6}$

5. $\frac{5}{8}$

6. $\frac{3}{4}$

Answers: $\frac{31}{12}, \frac{5}{11}, \frac{5}{7}, \frac{1}{3}, \frac{1}{2}, \frac{1}{3}$
Find each sum or difference. Write the answer in lowest terms.

1. \[ \frac{1}{2} + \frac{1}{4} \]
2. \[ \frac{1}{4} + \frac{1}{5} \]
3. \[ \frac{7}{10} + \frac{1}{2} \]

4. \[ \frac{10}{12} - \frac{1}{3} \]
5. \[ \frac{1}{3} - \frac{1}{5} \]
6. \[ \frac{1}{2} - \frac{5}{12} \]

7. \[ \frac{4}{5} - \frac{2}{4} \]
8. \[ \frac{1}{12} + \frac{1}{3} \]
9. \[ \frac{3}{4} - \frac{1}{2} \]

Rewrite the problem before you add or subtract.

10. \[ \frac{8}{13} - \frac{1}{5} \]
11. \[ \frac{1}{2} + \frac{3}{4} \]
12. \[ \frac{3}{4} - \frac{1}{3} \]

13. A cookie recipe uses \( \frac{1}{4} \) cup of sugar and \( \frac{1}{3} \) cup of brown sugar. How much sugar is used in all?

14. Maria walked \( \frac{3}{4} \) of a mile to the store. Then she walked \( \frac{1}{3} \) of a mile to the bank. How far did she walk in all?