NAME _____ DATE _____ PERIOD _____

5-2 Study Guide and Intervention

Adding and Subtracting Fractions

Like fractions are fractions that have the same denominator. To add or subtract like fractions, add or subtract the numerators and write the result over the denominator.

Simplify if necessary.

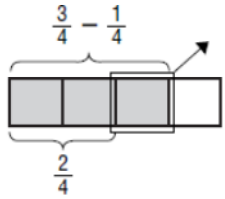
To add or subtract *unlike fractions*, rename the fractions with a least common denominator. Then add or subtract as with like fractions.

Example 1 **Subtract $\frac{3}{4} - \frac{1}{4}$. Write in simplest form.**

$$\frac{3}{4} - \frac{1}{4} = \frac{3-1}{4}$$ Subtract the numerators.

$$= \frac{2}{4}$$ Write the difference over the denominator.

$$= \frac{1}{2}$$ Simplify.

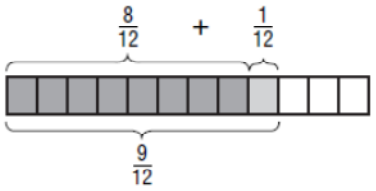


Example 2 **Add $\frac{2}{3} + \frac{1}{12}$. Write in simplest form.**

The least common denominator of 3 and 12 is 12.

$$\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$$ Rename $\frac{2}{3}$ using the LCD.

$$\begin{array}{rcl} \frac{2}{3} & \rightarrow & \frac{8}{12} \\ +\frac{1}{12} & \rightarrow & +\frac{1}{12} \\ \hline & & \frac{9}{12} \text{ or } \frac{3}{4} \end{array}$$ Add the numerators and simplify.



Exercises

Add or subtract. Write in simplest form.

1. $\frac{5}{8} + \frac{1}{8}$ $\frac{3}{4}$
2. $\frac{7}{9} - \frac{2}{9}$ $\frac{5}{9}$
3. $\frac{1}{2} + \frac{3}{4}$ $1\frac{1}{4}$
4. $\frac{7}{8} - \frac{5}{6}$ $\frac{1}{24}$
5. $\frac{5}{9} + \frac{5}{6}$ $1\frac{7}{18}$
6. $\frac{3}{8} - \frac{1}{12}$ $\frac{7}{24}$
7. $\frac{3}{10} + \frac{7}{12}$ $\frac{53}{60}$
8. $\frac{2}{5} - \frac{1}{3}$ $\frac{1}{15}$
9. $\frac{7}{15} + \frac{5}{6}$ $1\frac{3}{10}$
10. $\frac{7}{9} - \frac{1}{2}$ $\frac{5}{18}$