



Name \_\_\_\_\_ Date \_\_\_\_\_

# Adding and Subtracting Fractions with Unlike Denominators (pages 243–245)

When you add or subtract fractions, the fractions must have the same denominators. To add or subtract fractions with unlike denominators, rename the fractions using the least common denominator (LCD). Then add or subtract and simplify.

## EXAMPLES

**A** Add  $\frac{1}{2}$  and  $\frac{2}{3}$ .

The LCD for  $\frac{1}{2}$  and  $\frac{2}{3}$  is 6.

$$\frac{1}{2} = \frac{3}{6}, \text{ and } \frac{2}{3} = \frac{4}{6} \quad \text{Rename the fractions.}$$

$$\frac{3}{6} + \frac{4}{6} = \frac{7}{6}, \text{ or } 1\frac{1}{6} \quad \text{Add, then simplify.}$$

**B** Find  $\frac{3}{5} - \frac{1}{4}$ .

The LCD for  $\frac{3}{5}$  and  $\frac{1}{4}$  is 20.

$$\frac{3}{5} = \frac{12}{20}, \text{ and } \frac{1}{4} = \frac{5}{20} \quad \text{Rename the fractions.}$$

$$\frac{12}{20} - \frac{5}{20} = \frac{7}{20} \quad \text{Subtract.}$$

### Try These Together

**Add or subtract. Write the answer in simplest form.**

1.  $\frac{3}{4} - \frac{1}{6}$

*HINT: Find the LCD, then rename the fractions.*

2.  $\frac{3}{8} + \frac{5}{12}$

*HINT: Find the LCD, then rename the fractions.*

## PRACTICE

**Add or subtract. Write the answer in simplest form.**

3.  $\frac{3}{8} + \frac{1}{4}$

4.  $\frac{2}{3} + \frac{1}{6}$

5.  $\frac{7}{8} + \frac{1}{2}$

6.  $\frac{2}{5} + \frac{1}{3}$

7.  $\frac{11}{12} + \frac{5}{6}$

8.  $\frac{1}{6} + \frac{3}{4}$

9.  $\frac{3}{7} + \frac{1}{2}$

10.  $\frac{8}{11} - \frac{2}{3}$

11.  $\frac{4}{9} - \frac{1}{6}$

12. What is the sum of  $\frac{5}{8}$  and  $\frac{9}{16}$ ?

13. How much is  $\frac{9}{10} - \frac{2}{5}$ ?

14. How much more is  $\frac{11}{16}$  than  $\frac{1}{4}$ ?

15. **Carpentry** You are building a bookcase. The board that makes up the side of the bookcase is  $\frac{1}{2}$  inch thick. If you use  $\frac{7}{8}$ -inch screws to attach the shelves of the bookcase, how far into the shelves do the screws extend?



16. **Standardized Test Practice** What is the sum of  $\frac{1}{6}$ ,  $\frac{3}{4}$ , and  $\frac{9}{12}$ ?

**A**  $\frac{7}{12}$

**B**  $\frac{11}{12}$

**C**  $1\frac{5}{12}$

**D**  $1\frac{2}{3}$

Answers: 1.  $\frac{11}{24}$  2.  $\frac{19}{24}$  3.  $\frac{8}{5}$  4.  $\frac{6}{5}$  5.  $1\frac{8}{3}$  6.  $\frac{15}{11}$  7.  $1\frac{4}{3}$  8.  $\frac{11}{12}$  9.  $\frac{14}{13}$  10.  $\frac{33}{2}$  11.  $\frac{18}{5}$  12.  $1\frac{13}{16}$  13.  $\frac{2}{3}$  14.  $\frac{14}{16}$  15.  $\frac{8}{3}$  inch 16. D