



## SKILL 7: Subtracting Mixed Numbers with Unlike Denominators

To subtract mixed numbers with unlike denominators, first write equivalent fractions with a common denominator. Sometimes you will need to rename before you can subtract the fractions.

### Example 1

Find  $3\frac{5}{8} - 1\frac{1}{4}$  in simplest form.

Rewrite the fractions using their LCD, 8.

$$\begin{array}{r} 3\frac{5}{8} \rightarrow 3\frac{5}{8} \\ - 1\frac{1}{4} \rightarrow - 1\frac{2}{8} \\ \hline \end{array}$$

So,  $3\frac{5}{8} - 1\frac{1}{4} = 2\frac{3}{8}$ .

Subtract the fractions.

$$\begin{array}{r} 3\frac{5}{8} \\ - 1\frac{2}{8} \\ \hline 2\frac{3}{8} \end{array}$$

Subtract the whole numbers.

$$\begin{array}{r} 3\frac{5}{8} \\ - 1\frac{2}{8} \\ \hline 2\frac{3}{8} \end{array}$$

### Example 2

Find  $8\frac{1}{3} - 2\frac{5}{6}$  in simplest form.

Rewrite the fractions using their LCD, 6.

$$\begin{array}{r} 8\frac{1}{3} \rightarrow 8\frac{2}{6} \\ - 2\frac{5}{6} \rightarrow - 2\frac{5}{6} \\ \hline \end{array}$$

So,  $8\frac{1}{3} - 2\frac{5}{6} = 5\frac{1}{2}$ .

Since  $\frac{2}{6} < \frac{5}{6}$ , rename  $8\frac{2}{6}$  as  $7\frac{8}{6} + \frac{2}{6}$ , or  $7\frac{8}{6}$ .

$$\begin{array}{r} 7\frac{8}{6} \\ - 2\frac{5}{6} \\ \hline \end{array}$$

Subtract the fractions and whole numbers. Write the difference in simplest form.

$$\begin{array}{r} 7\frac{8}{6} \\ - 2\frac{5}{6} \\ \hline 5\frac{3}{6} = 5\frac{1}{2} \end{array}$$

### Guided Practice

Find each difference in simplest form.

$$\begin{array}{l} 1. \quad 6\frac{1}{5} \rightarrow 6\frac{\square}{10} \rightarrow 5\frac{\square}{10} \\ \quad \quad - 3\frac{7}{10} \rightarrow - 3\frac{7}{10} \rightarrow - 3\frac{7}{10} \end{array}$$

$$\begin{array}{l} 2. \quad 7\frac{1}{5} \rightarrow 7\frac{2}{15} \rightarrow 6\frac{\square}{15} \\ \quad \quad - 2\frac{2}{3} \rightarrow - 2\frac{\square}{15} \rightarrow - 2\frac{\square}{15} \end{array}$$

3.  $5\frac{7}{8} - 2\frac{3}{4} =$  \_\_\_\_\_

4.  $6\frac{1}{6} - 3\frac{2}{3} =$  \_\_\_\_\_

**SKILL 7: Practice**

Find each difference in simplest form.

1. 
$$\begin{array}{r} 5\frac{2}{7} \\ - 4\frac{2}{3} \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 15\frac{7}{10} \\ - 12\frac{2}{5} \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 7\frac{1}{3} \\ - 4\frac{1}{18} \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 2\frac{3}{8} \\ - 2\frac{5}{16} \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 8\frac{5}{8} \\ - 4\frac{7}{24} \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 10\frac{1}{3} \\ - 4\frac{5}{6} \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 9\frac{2}{3} \\ - 1\frac{1}{10} \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 12\frac{3}{8} \\ - 8\frac{5}{6} \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 5\frac{1}{6} \\ - 2\frac{3}{5} \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 9\frac{1}{10} \\ - 7\frac{2}{5} \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 3\frac{1}{2} \\ - 1\frac{5}{6} \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 3\frac{2}{3} \\ - 1\frac{8}{15} \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 10\frac{4}{5} \\ - 1\frac{14}{25} \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 8\frac{4}{7} \\ - 1\frac{1}{2} \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 2\frac{1}{2} \\ - 1\frac{19}{21} \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 12\frac{3}{4} \\ - 5\frac{1}{7} \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 7\frac{4}{5} \\ - 2\frac{5}{8} \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 10\frac{17}{21} \\ - 1\frac{5}{7} \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 10\frac{7}{18} \\ - 4\frac{1}{3} \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 15\frac{11}{14} \\ - 14\frac{1}{7} \\ \hline \end{array}$$

**Solve.**

21. Jessie baked
- $6\frac{1}{2}$
- dozen cookies for a bake sale, and
- $4\frac{2}{3}$
- dozen of the cookies were sold. How many dozen cookies were left over? \_\_\_\_\_



22. Find
- $6\frac{2}{3} - 3\frac{1}{4}$
- in simplest form.

Skill 7

A  $3\frac{5}{12}$

C  $4\frac{5}{12}$

B  $3\frac{7}{12}$

D  $4\frac{7}{12}$

23. Which of the following is the best estimate of
- $2\frac{10}{11} + 3\frac{6}{7}$
- ?

Skill 1

F 5

H 7

G 6

J 8