

**4-9****Study Guide and Intervention****Comparing and Ordering Rational Numbers**

To compare fractions, rewrite them so they have the same denominator. The **least common denominator (LCD)** of two fractions is the LCM of their denominators.

Another way to compare fractions is to express them as decimals. Then compare the decimals.

**Example 1** Which fraction is greater,  $\frac{3}{4}$  or  $\frac{4}{5}$ ?

**Method 1** Rename using the LCD.

$$\frac{3}{4} = \frac{3 \times 5}{4 \times 5} = \frac{15}{20}$$

$$\frac{4}{5} = \frac{4 \times 4}{5 \times 4} = \frac{16}{20}$$

The LCD is 20.

Because the denominators are the same, compare numerators.

Since  $\frac{16}{20} > \frac{15}{20}$ , then  $\frac{4}{5} > \frac{3}{4}$ .

**Method 2** Write each fraction as a decimal. Then compare decimals.

$$\frac{3}{4} = 0.75$$

$$\frac{4}{5} = 0.8$$

Since  $0.8 > 0.75$ , then  $\frac{4}{5} > \frac{3}{4}$ .

**Exercises**

Find the LCD of each pair of fractions.

1.  $\frac{1}{2}, \frac{1}{8}$     **8**

2.  $\frac{1}{3}, \frac{3}{4}$     **12**

3.  $\frac{3}{4}, \frac{7}{10}$     **20**

Replace each  $\bullet$  with  $<$ ,  $>$ , or  $=$  to make a true sentence.

4.  $\frac{1}{2} \bullet \frac{4}{9} >$

5.  $\frac{4}{5} \bullet \frac{8}{10} =$

6.  $\frac{3}{4} \bullet \frac{7}{8} <$

7.  $\frac{1}{2} \bullet \frac{5}{9} <$

8.  $\frac{9}{14} \bullet \frac{10}{17} >$

9.  $\frac{5}{7} \bullet \frac{6}{11} >$

10.  $\frac{8}{17} \bullet \frac{1}{2} <$

11.  $\frac{9}{10} \bullet \frac{17}{19} >$