

## Section Overview

## Equivalent Fractions and Decimals

Lessons 3-4, 3-5

**Why?** Recognizing equivalent expressions for a value is an important problem-solving skill.

To write **equivalent fractions**, multiply or divide both the numerator and the denominator of a fraction by the same number.

$$\frac{3}{12} = \frac{3 \cdot 2}{12 \cdot 2} = \frac{6}{24}$$

$$\frac{3}{12} = \frac{3 \div 3}{12 \div 3} = \frac{1}{4}$$

$\frac{3}{12}$ ,  $\frac{6}{24}$ ,  $\frac{1}{4}$ , and 0.25 are equivalent expressions because they name the same value.

$$\frac{1}{4} \rightarrow \begin{array}{r} 0.25 \\ 4 \overline{)1.00} \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

To write a fraction as a decimal, divide the **numerator** by the **denominator**.

## Comparing and Ordering Rational Numbers

Lesson 3-6

**Why?** Comparing and ordering rational numbers is an important part of understanding numbers.

## Comparing Two Fractions with Different Denominators

Compare  $\frac{5}{8}$  and  $\frac{2}{3}$ .

$$\frac{5}{8} = \frac{5 \cdot 3}{8 \cdot 3} = \frac{15}{24}$$

$$\frac{2}{3} = \frac{2 \cdot 8}{3 \cdot 8} = \frac{16}{24}$$

Write the fractions as **fractions with the same denominators**. Then compare the numerators.

$$\frac{15}{24} < \frac{16}{24}, \text{ so } \frac{5}{8} < \frac{2}{3}$$

## Comparing Decimals

Compare 0.387 and 0.39.

**0.387**

**0.390**

So,  $0.387 < 0.390$

Write the **decimals with the same number of decimal places**. Compare each place from left to right.