Section Overview

Professional Development

Equivalent Fractions and Decimals

Lessons 2-9, 2-10

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.

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

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

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

$\frac{1}{4} \rightarrow$

$$\begin{array}{r} 0.25 \\ 4\overline{)1.00} \\ -8 \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

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

Comparing and Ordering Rational Numbers

Lesson 2-11

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

Comparing Two Fractions with Different Denominators

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

$\frac{5}{8} = \frac{5 \cdot 3}{8 \cdot 3} = \frac{15}{24}$ $\quad$ $\frac{2}{3} = \frac{2 \cdot 8}{3 \cdot 8} = \frac{16}{24}$

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

$\frac{15}{24} < \frac{16}{24}$, 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.