

4-4**Study Guide and Intervention*****Simplifying Fractions***

Fractions that have the same value are called **equivalent fractions**. A fraction is in **simplest form** when the GCF of the numerator and denominator is 1.

Example 1 Write $\frac{36}{54}$ in simplest form.

First, find the GCF of the numerator and denominator.

factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36

factors of 54: 1, 2, 3, 6, 9, 18, 27, 54

The GCF of 36 and 54 is 18.

Then, divide the numerator and the denominator by the GCF.

$$\frac{36}{54} = \frac{36 \div 18}{54 \div 18} = \frac{2}{3} \quad \text{So, } \frac{36}{54} \text{ written in simplest form is } \frac{2}{3}.$$

Example 2 Write $\frac{8}{12}$ in simplest form.

Find the GCF of the numerator and the denominator.

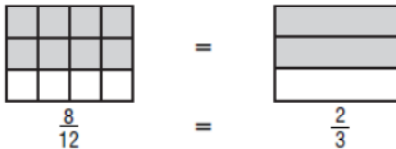
factors of 8 = $2 \cdot 2 \cdot 2$

factors of 12 = $2 \cdot 2 \cdot 3$

The GCF of 8 and 12 is $2 \cdot 2$ or 4.

$$\frac{8 \div 4}{12 \div 4} = \frac{2}{3}$$

So, $\frac{8}{12}$ written in simplest form is $\frac{2}{3}$.

**Exercises**

Write each fraction in simplest form.

1. $\frac{42}{72} \quad \frac{7}{12}$

2. $\frac{40}{64} \quad \frac{5}{8}$

3. $\frac{21}{35} \quad \frac{3}{5}$

4. $\frac{25}{100} \quad \frac{1}{4}$

5. $\frac{99}{132} \quad \frac{3}{4}$

6. $\frac{17}{85} \quad \frac{1}{5}$