

7.1 Fractions in Simplest Form

A fraction is in simplest form (or lowest terms) when the numerator and denominator have no common factor other than 1.

Use these steps to rename a fraction as an equivalent fraction in simplest form:

1. Find the *GCF* of the numerator and denominator.
2. Divide the numerator and denominator by their *GCF*.

Example: Find the *GCF* of the numerator and the denominator of each fraction.

1.) $\frac{3}{6}$

$GCF = 3$

2.) $\frac{10}{12}$

$GCF = 2$

3.) $\frac{80}{100}$

$GCF = 20$

4.) $\frac{10}{125}$

$GCF = 5$

5.) $\frac{90}{108}$

$GCF = 18$

6.) $\frac{24}{84}$

$GCF = 12$

Example: Is the fraction in simplest form? Write yes or no. If it is not, rename the fraction in simplest form.

$$7.) \frac{2}{3} \quad \boxed{\text{yes}}$$

$$8.) \frac{4 \div 4}{8 \div 4} = \boxed{\frac{1}{2}}$$

$\cancel{HCF} = 4$

$$9.) \frac{7 \div 7}{21 \div 7} = \boxed{\frac{1}{3}}$$

$\cancel{HCF} = 7$

$$10.) \frac{10 \div 2}{18 \div 2} = \boxed{\frac{5}{9}}$$

$\cancel{HCF} = 2$

$$11.) \frac{12 \div 12}{36 \div 12} = \boxed{\frac{1}{3}}$$

$\cancel{HCF} = 12$

$$12.) \frac{17}{52} \quad \boxed{\text{yes}}$$

Example: Rename each fraction as an equivalent fraction in simplest form.

$$13.) \frac{18 \div 9}{36 \div 9} = \frac{2 \div 2}{4 \div 2} = \boxed{\frac{1}{2}}$$

$$14.) \frac{14 \div 7}{21 \div 7} = \boxed{\frac{2}{3}}$$

$$15.) \frac{16 \div 4}{20 \div 4} = \boxed{\frac{4}{5}}$$

$$16.) \frac{9 \div 3}{21 \div 3} = \boxed{\frac{3}{7}}$$

$$17.) \frac{33 \div 11}{55 \div 11} = \boxed{\frac{3}{5}}$$

$$18.) \frac{12 \div 6}{30 \div 6} = \boxed{\frac{2}{5}}$$