

Name \_\_\_\_\_

Date \_\_\_\_\_

# Fractions, Simplest Form, and the Greatest Common Factor

One three-step strategy for simplifying fractions uses the **greatest common factor (GCF)** between the numerator and denominator.

**Step 1:** Factor the numerator and denominator to find their greatest common factor.

**Example:**  $\frac{340}{800}$  ← numerator  
 $\frac{340}{800}$  ← denominator

$$\begin{array}{l} 340 \\ 800 \end{array} \begin{array}{l} 2 \times 170 (2 \times 85) 5 \times 17; 2 \times 2 \times 5 \times 17 \\ * (2 \times 2 \times 5 \times 17) \\ 2 \times 400 (2 \times 200) 2 \times 100 (2 \times 50) 2 \times 25 5 \times 5 \\ * (2 \times 2 \times 5) \times 2 \times 2 \times 2 \times 5 \end{array}$$

\* Notice that 340 and 800 share only two 2's and one 5 as factors.

The Greatest Common Factor (GCF) is:  $2 \times 2 \times 5 = 20$

**Step 2:** Divide each by their greatest common factor.

$$340 \div 20 = 17$$

$$800 \div 20 = 40$$

**Step 3:** Find the simplest form of the fraction.

$$\frac{17}{40}$$

**Try It!** Simplify each fraction by applying the three-step procedure using the greatest common factor.

1.  $\frac{240}{320}$

240:

320:

GCF:

2.  $\frac{366}{480}$

366:

480:

GCF:

3.  $\frac{123}{141}$

123:

141:

GCF:

4.  $\frac{228}{312}$

228:

312:

GCF:

5.  $\frac{180}{366}$

180:

366:

GCF:

6.  $\frac{255}{345}$

255:

345:

GCF: