EQUIVALENT FRACTIONS 1.2.4 and 1.2.5

Fractions that name the same value are called equivalent fractions, such as $\frac{2}{3} = \frac{6}{9}$.
One method for finding equivalent fractions is to use the Multiplicative Identity (Identity Property of Multiplication), that is, multiplying the given fraction by a form of the number 1 such as $\frac{2}{2}$, $\frac{5}{5}$, etc. In this course we call these fractions a “Giant One.” Multiplying by 1 does not change the value of a number.

For additional information, see the Math Notes box in Lesson 1.2.8 of the Core Connections, Course 2 text.

Example 1

Find three equivalent fractions for $\frac{1}{2}$.

$$\frac{1}{2} \cdot \frac{2}{2} = \frac{2}{4} \hspace{1cm} \frac{1}{2} \cdot \frac{3}{3} = \frac{3}{6} \hspace{1cm} \frac{1}{2} \cdot \frac{4}{4} = \frac{4}{8}$$

Example 2

Use the Giant One to find an equivalent fraction to $\frac{7}{12}$ using 96ths: $\frac{7}{12} \cdot \frac{8}{8} = \frac{56}{96}$

Which Giant One do you use?

Since $\frac{96}{12} = 8$, the Giant One is $\frac{8}{8}$:

$$\frac{7}{12} \cdot \frac{8}{8} = \frac{56}{96}$$

Problems

Use the Giant One to find the specified equivalent fraction. Your answer should include the Giant One you use and the equivalent numerator.

1. $\frac{4}{3} \cdot \frac{2}{15} = \frac{7}{15}$
2. $\frac{5}{9} \cdot \frac{2}{36} = \frac{3}{36}$
3. $\frac{9}{2} \cdot \frac{2}{38} = \frac{7}{38}$
4. $\frac{3}{7} \cdot \frac{2}{28} = \frac{7}{28}$
5. $\frac{5}{3} \cdot \frac{2}{18} = \frac{7}{18}$
6. $\frac{6}{5} \cdot \frac{2}{15} = \frac{7}{15}$

Answers

1. $\frac{5}{5}, 20$
2. $\frac{4}{4}, 20$
3. $\frac{19}{19}, 171$
4. $\frac{4}{4}, 12$
5. $\frac{6}{6}, 30$
6. $\frac{3}{3}, 18$