

Name: \_\_\_\_\_

Period: \_\_\_\_\_

Date: \_\_\_\_\_

**Math Unit 2: Fractions and Decimals****Lesson 2.2- Dividing Fractions****SWBAT:****Paraphrase:****Essential Question:** How can you divide by a fraction?

Vocabulary

reciprocal-

Example 1

|    | <i>Original Number</i> | <i>Fraction</i> | <i>Reciprocal</i> | <i>Check</i>                         |
|----|------------------------|-----------------|-------------------|--------------------------------------|
| a. | $\frac{3}{5}$          | $\frac{3}{5}$   | $\frac{5}{3}$     | $\frac{3}{5} \times \frac{5}{3} = 1$ |
| b. | $\frac{9}{5}$          | $\frac{9}{5}$   | $\frac{5}{9}$     | $\frac{9}{5} \times \frac{5}{9} = 1$ |
| c. | 2                      | $\frac{2}{1}$   | $\frac{1}{2}$     | $\frac{2}{1} \times \frac{1}{2} = 1$ |

Your Turn

**Write the reciprocal of the number.**

1.  $\frac{3}{4}$

2. 5

3.  $\frac{7}{2}$

4.  $\frac{4}{9}$

Example 2

Find  $\frac{1}{6} \div \frac{2}{3}$ .

$$\frac{1}{6} \div \frac{2}{3} = \frac{1}{6} \times \frac{3}{2}$$

$$= \frac{1 \times \overset{1}{\cancel{3}}}{\underset{2}{\cancel{6}} \times 2}$$

$$= \frac{1}{4}$$

Multiply by the reciprocal of  $\frac{2}{3}$ , which is  $\frac{3}{2}$ .

Multiply fractions. Divide out the common factor 3.

Simplify.

Your Turn

**Divide. Write the answer in simplest form.**

5.  $\frac{2}{7} \div \frac{1}{3}$

6.  $\frac{1}{2} \div \frac{1}{8}$

7.  $\frac{3}{8} \div \frac{1}{4}$

8.  $\frac{2}{5} \div \frac{3}{10}$

Example 3

Find  $\frac{4}{5} \div 2$ .

$$\frac{4}{5} \div 2 = \frac{4}{5} \div \frac{2}{1}$$

Write 2 as an improper fraction.

$$= \frac{4}{5} \times \frac{1}{2}$$

Multiply by the reciprocal of  $\frac{2}{1}$ , which is  $\frac{1}{2}$ .

$$= \frac{\overset{2}{\cancel{4}} \times 1}{5 \times \cancel{2}_1}$$

Multiply fractions. Divide out the common factor 2.

$$= \frac{2}{5}$$

Simplify.

Your Turn

**Divide. Write the answer in simplest form.**

10.  $\frac{1}{2} \div 3$

11.  $\frac{2}{3} \div 10$

12.  $\frac{5}{8} \div 4$

13.  $\frac{6}{7} \div 4$

Notes /  
Questions