

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

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

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

**Math Unit 2: Fractions and Decimals****Lesson 2.1- Multiplying Fractions****SWBAT:****Paraphrase:****Essential Question:** What does it mean to multiply fractions?

Example 1

**Find**  $\frac{1}{5} \times \frac{1}{3}$ .

$$\frac{1}{5} \times \frac{1}{3} = \frac{1 \times 1}{5 \times 3}$$

Multiply the numerators.

Multiply the denominators.

$$= \frac{1}{15}$$

Simplify.

Example 2

**Find**  $\frac{8}{9} \times \frac{3}{4}$ .**Estimate**  $1 \times \frac{3}{4} = \frac{3}{4}$ 

$$\frac{8}{9} \times \frac{3}{4} = \frac{8 \times 3}{9 \times 4}$$

Multiply the numerators.

Multiply the denominators.

$$= \frac{\overset{2}{\cancel{8}} \times \overset{1}{\cancel{3}}}{\underset{3}{\cancel{9}} \times \underset{1}{\cancel{4}}}$$

Divide out common factors.

$$= \frac{2}{3}$$

Simplify.

••• The product is  $\frac{2}{3}$ .**Reasonable?**  $\frac{2}{3} \approx \frac{3}{4}$  ✓

Your Turn

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

1.  $\frac{1}{2} \times \frac{5}{6}$

2.  $\frac{7}{8} \times \frac{1}{4}$

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

4.  $\frac{4}{9} \times \frac{3}{10}$

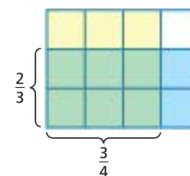
Example 3



You have  $\frac{2}{3}$  of a bag of flour. You use  $\frac{3}{4}$  of the flour to make empanada dough. How much of the entire bag do you use to make the dough?

**Method 1:** Use a model. Six of the 12 squares have both types of shading.

❖ So, you use  $\frac{6}{12} = \frac{1}{2}$  of the entire bag.



**Method 2:** To find  $\frac{3}{4}$  of  $\frac{2}{3}$ , multiply.

$$\frac{3}{4} \times \frac{2}{3} = \frac{\overset{1}{\cancel{3}} \times \overset{1}{\cancel{2}}}{\underset{1}{\cancel{4}} \times \underset{1}{\cancel{3}}} = \frac{1}{2}$$

Multiply the numerators and the denominators.

Divide out common factors.

Simplify.

❖ So, you use  $\frac{1}{2}$  of the entire bag.

Your Turn

You have  $\frac{5}{8}$  of a large bottle of shampoo. You pour  $\frac{3}{10}$  of the shampoo into a smaller bottle. How much of the entire larger bottle did you pour into the smaller bottle?

Notes / Questions