

Name _____

Multiply Fractions

I Can use visual models to show the product of two fractions.

Florida's B.E.S.T.

- Fractions 5.FR.2.2
- Algebraic Reasoning 5.AR.1.2
- Mathematical Thinking & Reasoning MTR.1.1, MTR.2.1, MTR.5.1, MTR.6.1

Investigate

Jane is making reusable grocery bags and lunch bags. She needs $\frac{3}{4}$ yard of cloth to make a grocery bag. To make a lunch bag she needs $\frac{2}{3}$ of the amount of cloth needed to make a grocery bag. How much cloth does she need to make a lunch bag?

Materials ■ color pencils

Find $\frac{2}{3}$ of $\frac{3}{4}$.

- A. Fold a sheet of paper vertically into 4 equal parts. Using the vertical folds as a guide, shade $\frac{3}{4}$ yellow.
- B. Fold the paper horizontally into 3 equal parts. Using the horizontal folds as a guide, shade $\frac{2}{3}$ of the yellow sections blue.
- C. Count the number of sections into which the whole sheet of paper is folded.
 - How many rectangles are formed by all the folds in the paper? _____
 - What fraction of the whole sheet of paper does one rectangle represent? _____
- D. Count the sections that are shaded twice and record the answer.

$$\frac{2}{3} \times \frac{3}{4} = \underline{\hspace{2cm}}$$

So, Jane needs _____ yard of cloth to make a lunch bag.



Draw Conclusions

1. Explain why you shaded $\frac{2}{3}$ of the yellow sections blue rather than shading $\frac{2}{3}$ of the whole.

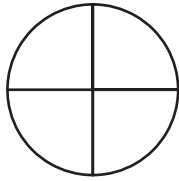
2. **MTR** Analyze what you are finding if a model shows $\frac{1}{2}$ of a sheet of paper shaded yellow and $\frac{1}{3}$ of the yellow section shaded blue.

Make Connections

You can find a part of a part in different ways. Marguerite and James both correctly solved the problem $\frac{1}{3} \times \frac{3}{4}$ using the steps shown.

Use the steps to show how each person found $\frac{1}{3} \times \frac{3}{4}$.

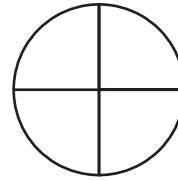
Marguerite



- Shade the model to show $\frac{3}{4}$ of the whole.
- How many $\frac{1}{4}$ pieces did you shade?
_____ one-fourth pieces
- To find $\frac{1}{3}$ of $\frac{3}{4}$, circle $\frac{1}{3}$ of the three $\frac{1}{4}$ pieces that are shaded.
- What part of the whole is $\frac{1}{3}$ of the shaded pieces? _____ of the whole

So, $\frac{1}{3} \times \frac{3}{4}$ is _____.

James



- Shade the model to show $\frac{3}{4}$ of the whole.
- Divide each $\frac{1}{4}$ piece into thirds.
- What part of the whole is each small piece? _____
- To find $\frac{1}{3}$ of $\frac{3}{4}$, circle $\frac{1}{3}$ of each of the three $\frac{1}{4}$ pieces that are shaded.
- How many $\frac{1}{12}$ pieces are circled?
_____ one-twelfth pieces

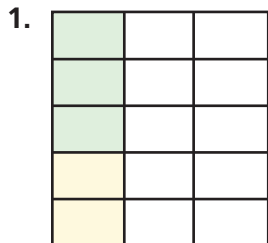
So, $\frac{1}{3} \times \frac{3}{4}$ is _____.

- Pose a problem that can be solved using the expression above.

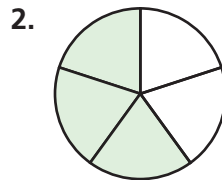
Share and Show

Math Board

Use the model or *iTools* to find the product.



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



Circle $\frac{2}{3}$ of $\frac{3}{5}$.

$\frac{2}{3} \times \frac{3}{5} =$ _____