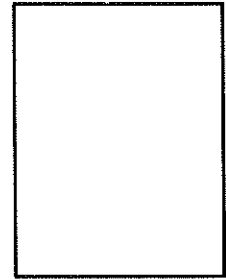


**LESSON**  
**8•6**
**An Area Model for Fraction Multiplication**

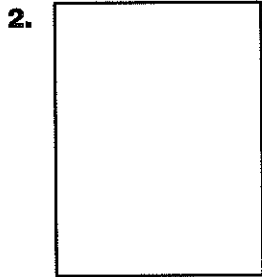

1. Use the rectangle at the right to find  $\frac{2}{3} * \frac{3}{4}$ .

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

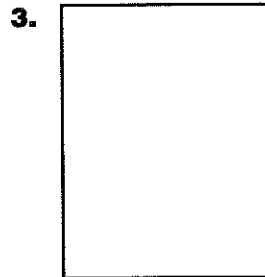


Your completed drawing in Problem 1 is called an **area model**.

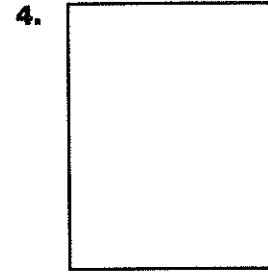
Use area models to complete the following.



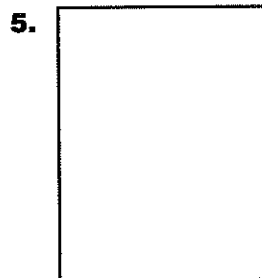
$$\frac{2}{3} * \frac{1}{5} = \underline{\hspace{2cm}}$$



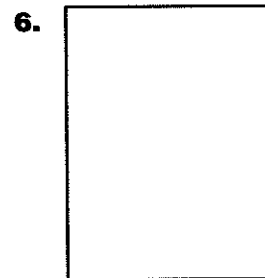
$$\frac{3}{4} * \frac{2}{5} = \underline{\hspace{2cm}}$$



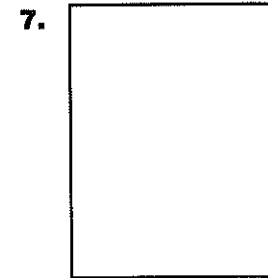
$$\frac{1}{4} * \frac{5}{6} = \underline{\hspace{2cm}}$$



$$\frac{3}{8} * \frac{3}{5} = \underline{\hspace{2cm}}$$



$$\frac{1}{2} * \frac{5}{8} = \underline{\hspace{2cm}}$$



$$\frac{5}{6} * \frac{4}{5} = \underline{\hspace{2cm}}$$

8. Explain how you sketched and shaded the rectangle to solve Problem 7.

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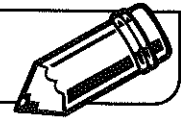
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**LESSON**  
**8•6**

# Fraction Multiplication


**Problem 1**

a. How many squares are in this grid? \_\_\_\_\_

b. How many squares represent  $\frac{1}{3}$  of  $\frac{1}{2}$  of the grid.

\_\_\_\_\_ Shade these squares.

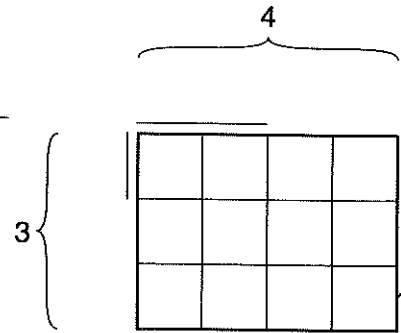
c. Think of the total number of squares in the grid as the denominator and the shaded squares as the numerator, and write the fraction.  $\frac{1}{3}$  of  $\frac{1}{2}$  = \_\_\_\_\_

d. Write the number model you would use to find the area of this rectangle.

**Reminder:** Area = length \* width

Area = \_\_\_\_\_

e. The number model to find the fractional part of the rectangle is the same as the number model to find the area of the rectangle. Write the number model you would use to find the fractional part of the rectangle.

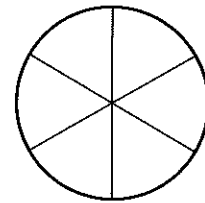

**Problem 2**

Linda bakes a peach pie. She serves  $\frac{1}{2}$  of the pie for dessert. She saves  $\frac{1}{3}$  of what is left for her mom.

a. Shade the circle to represent the piece of the pie that should be saved.

b. Think of the total number of pie pieces as the denominator and the shaded piece as the numerator, and write the fraction. \_\_\_\_\_

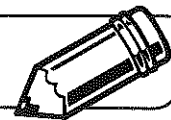
c. Write a number sentence to show how you could find the fractional part of the pie that was saved without counting pie pieces. \_\_\_\_\_



To find a fraction of a fraction, multiply.

**Try This**

Write and solve a number model to find the fractional part of the pie left after subtracting dessert and the piece saved for Linda's mom.

**LESSON**  
**8•6**
**Fraction Problems**


1. Ailene is baking corn bread. She will cover  $\frac{3}{4}$  of the cornbread with cheese. Then she plans to give  $\frac{2}{3}$  of the cornbread with cheese to her friend Alex.
 
  - a. Use the rectangle to show an area model for the problem.
  - b. Write an open number model for the problem. Choose a letter to stand for the portion that will be given to Alex. \_\_\_\_\_
  - c. Ailene will give \_\_\_\_\_ of the cornbread to Alex.
  
2. A recipe for granola bars calls for  $\frac{1}{2}$  cup almonds. Cy is making  $\frac{3}{4}$  of the recipe.
  - a. Write an open number model to show how many ounces of almonds Cy will use. \_\_\_\_\_
  - b. Cy will use \_\_\_\_\_ cup of almonds.
  
3. An ant weighs  $\frac{1}{10}$  the weight of a crumb that it is carrying. Suppose the crumb weighs  $\frac{3}{100}$  gram.
  - a. Write an open number model to show the weight of the ant in grams.  
\_\_\_\_\_
  - b. The ant weighs \_\_\_\_\_ gram.
  
4. Walker plans to hike a trail that is  $\frac{8}{10}$  of a mile long. So far, he has walked  $\frac{1}{4}$  that distance.
  - a. Write an open number model for the problem. \_\_\_\_\_
  - b. So far, Walker has walked \_\_\_\_\_ mi.
  
5. In Mrs. Ortiz's class,  $\frac{9}{22}$  of the students are boys. Of the boys,  $\frac{1}{9}$  are left-handed.
  - a. Write an open number model to show how to find what fraction of the class are left-handed boys. \_\_\_\_\_
  - b. \_\_\_\_\_ of the class are left-handed boys.