

# Area Models: Fraction Products 1

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

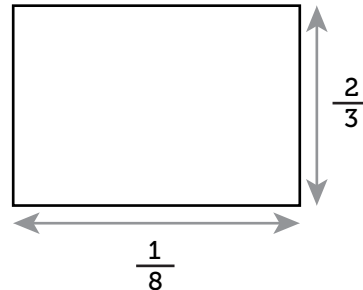
Date: \_\_\_\_\_

When multiplying a fraction by a fraction, it can be helpful to show the result using an area model. This can be done in four easy steps!

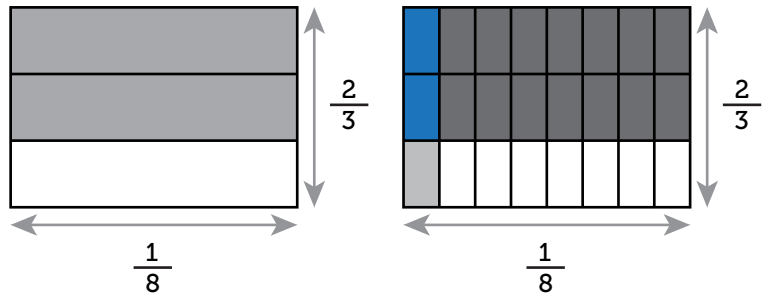
Consider  $\frac{2}{3} \times \frac{1}{8}$

**Step 1:** Assign each factor to a rectangle

side:  $\frac{2}{3}$  (width)  $\times$   $\frac{1}{8}$  (length)

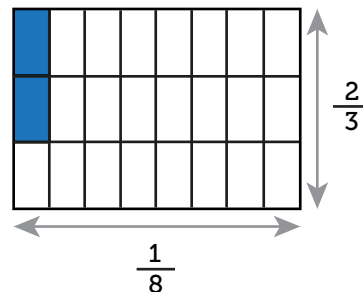


**Step 2:** Divide and shade the area model by each fraction value of length and width. The width of the rectangle has two-thirds shaded and the length has one-eighth shaded.



**Step 3:** Isolate the overlapping fraction of the fraction:

(...in this case, it's  $\frac{2}{3}$  of  $\frac{1}{8}$  )

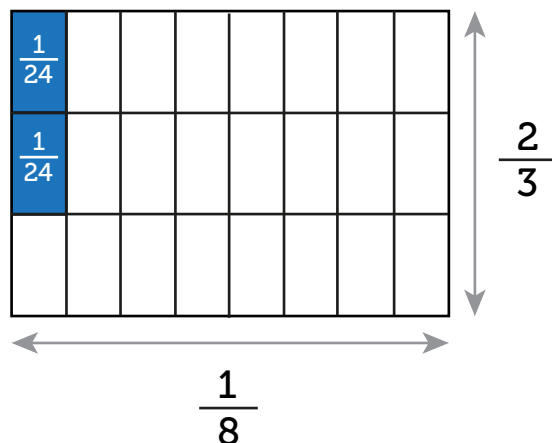


**Step 4:** Label the unit fractions:  $\frac{2}{3} \times \frac{1}{8} = \frac{2}{24}$ .

The product denominator reveals the total area is divided into 24 pieces. You can also count the total number of divided squares to confirm your answer.

Therefore, one unit piece of the total area is  $\frac{1}{24}$  or one twenty-fourths each.

You can see in the area model that  $\frac{1}{24} + \frac{1}{24} = \frac{2}{24}$



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## Step One Exercises

Directions: Sketch each expression by drawing a rectangle. Then assign one factor to the length and one factor to the width.

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

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

## Step Two Exercises

Directions: Divide and shade the area model by each fraction value of length and width.

3.  $\frac{1}{5} \times \frac{1}{6} =$

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

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## Step Three Exercises

Directions: *Isolate the overlapping fraction of the fractions for each expression's area model.*

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

6.  $\frac{1}{4} \times \frac{1}{2} =$

## Step Four Exercises

Directions: *Label unit fractions for the product in the area model for each expression.*

Hint: *The product denominator reveals the total area is divided into \_\_\_\_\_ pieces.*

7.  $\frac{1}{5} \times \frac{1}{6} =$

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