



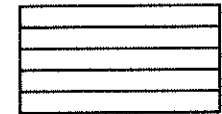
MATH NOTES

METHODS AND MEANINGS

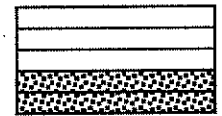
Multiplying Fractions Using a Rectangle

One way to model multiplying fractions is to shade a unit rectangle. Below is an example of shading a unit rectangle to represent $\frac{2}{3}$ of $\frac{2}{5}$ or, written as multiplication, $\frac{2}{3} \cdot \frac{2}{5}$.

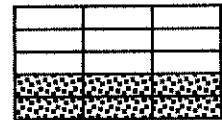
Step 1: Divide a rectangle into five sections (“fifths”)—the denominator of the second fraction. (Notice that the second number has been drawn first.)



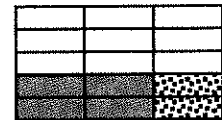
Step 2: Shade horizontal sections to represent how many fifths there are—the numerator of the second fraction.



Step 3: Divide the rectangle vertically using the denominator of the other factor (“thirds”).



Step 4: Use a darker shading to show how many thirds there are. For this example, shade two thirds of the two fifths.



Step 5: The product’s numerator is the number of sections that are double-shaded. The product’s denominator is the total number of sections in the rectangle. Write an equation to show the product: $\frac{2}{3} \cdot \frac{2}{5} = \frac{4}{15}$. Simplify or reduce the product when possible.