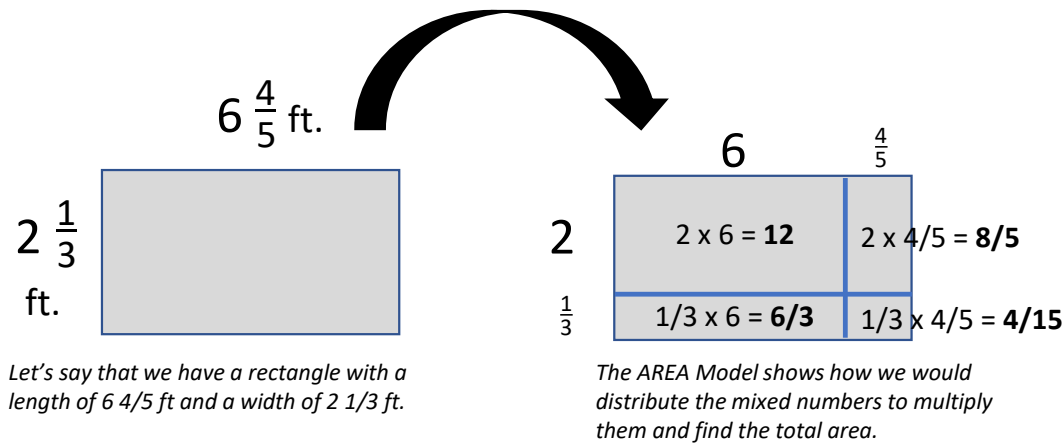


Topic B Quiz Prep (Lessons 8 – 15)

Item 1: Area Model to Determine the Product

In Topic B we learned how to find the area of rectangles with fraction side lengths. The “area” model is an easy way to show the length and width of a rectangle and how the partial products are summed together to get the total area. Be able to show how you would use an area model to determine the product of a rectangle.



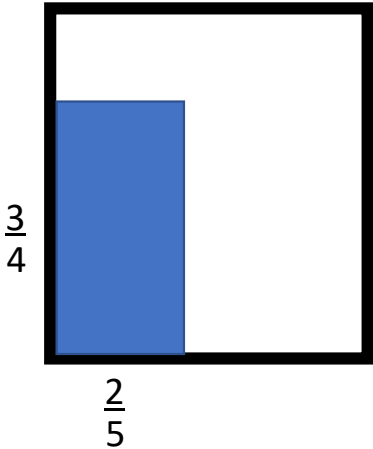
*The area model above shows how we would partition the fraction sides. In this part, we will **solve the problem using the distributive method**. Notice the similarities between the area model above and the distributive method shown here.*

$$\begin{array}{r}
 6 \frac{4}{5} \times 2 \frac{1}{3} \\
 (6 \times 2) + (6 \times \frac{1}{3}) + (\frac{4}{5} \times 2) + (\frac{4}{5} \times \frac{1}{3}) \\
 \mathbf{12} + \mathbf{6/3} + \mathbf{8/5} + \mathbf{4/15} \\
 12 + 2 + 24/15 + 4/15 \\
 14 + 28/15 \\
 14 + 1 \frac{13}{15} \\
 \mathbf{15 \frac{13}{15}}
 \end{array}$$

Topic B Quiz Prep (Lessons 8 – 15)

Item 2: Tiling a Rectangle

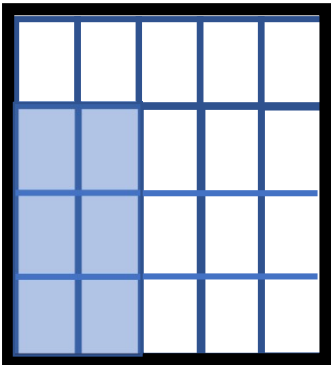
Throughout Topic B we learned that when we measure for area, **we fill up the space inside the shape with smaller squares, called tiles.** The idea is to find out how many square tiles cover the shape without gaps or overlaps.



The blue rectangle has a length of 3/4 feet and a width of 2/5 feet.

The **TOTAL AREA of the blue rectangle** is simply Length x Width, or 3/4 x 2/5 = 6/20 feet square.

ONE UNIT SQUARE would be 4/4 x 5/5 = 20/20 square feet.



Area of **1 rectangle** tile:

1/20 square unit

$$1/4 \times 1/5 = 1/20$$

Items 3 & 6: Multiply Mixed Numbers (Area = L x W)

		$6 \frac{4}{5}$	X	$2 \frac{1}{3}$		
(6×2)	+	$(6 \times 1/3)$	+	$(4/5 \times 2)$	+	$(4/5 \times 1/3)$
12	+	6/3	+	8/5	+	4/15
12	+	2	+	24/15	+	4/15
		14	+			28/15
		14	+			1 13/15
				15		13/15

$6 \frac{4}{5}$	X	15
(6×15)	+	$(4/5 \times 15)$
90	+	60/5
90	+	12
		102

Topic B Quiz Prep (Lessons 8 – 15)

Item 4: Area of a Rectangle (A = L x W)

Use **square tiles** and find the area of 1 square unit.
 Area of 1 tile: $\frac{1}{5} \times \frac{1}{2} = \frac{1}{10}$ square unit.
 $18 \times \frac{1}{10} = \frac{18}{10}$ square units.

$$\frac{6}{5} \times \frac{3}{2} = \frac{18}{10}$$

Find the area of the rectangle.

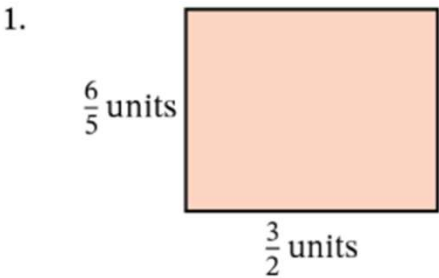
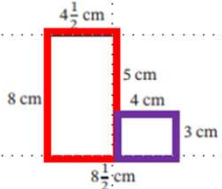
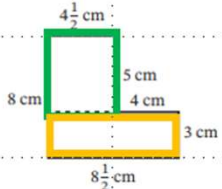
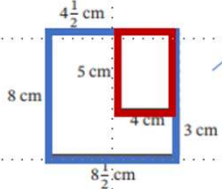


Figure	Expression
	$(8\frac{1}{2} \times 3) + (5 \times 4\frac{1}{2})$
	$8 \times 8\frac{1}{2} - (5 \times 4)$
	$(4\frac{1}{2} \times 8) + (4 \times 3)$

Item 5: Area of Composite Figures

You can partition composite figure in several different ways.