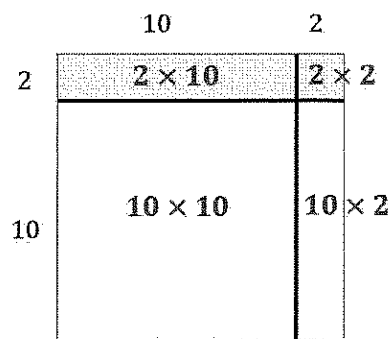
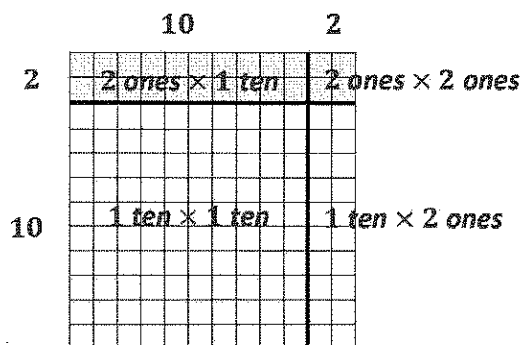


G4-M3-Lesson 36

1. a. In each of the two models pictured below, write the expressions that determine the area of each of the four smaller rectangles.



I write the expressions that determine the area of each of the four smaller rectangles. The area of each smaller rectangle is equal to its width times its length. I can write the expressions in unit form or standard form.

- b. Using the distributive property, rewrite the area of the large rectangle as the sum of the areas of the four smaller rectangles. Express the area first in number form and then read it in unit form.

$$12 \times 12 = (2 \times \underline{2}) + (2 \times \underline{10}) + (10 \times \underline{2}) + (10 \times \underline{10})$$

I write the expressions of the areas of the four smaller rectangles. I use the area models to help me. I say, "12 × 12 = (2 ones × 2 ones) + (2 ones × 1 ten) + (1 ten × 2 ones) + (1 ten × 1 ten)."

2. Use an area model to represent the following expression. Record the partial products vertically and solve.

$$15 \times 33$$

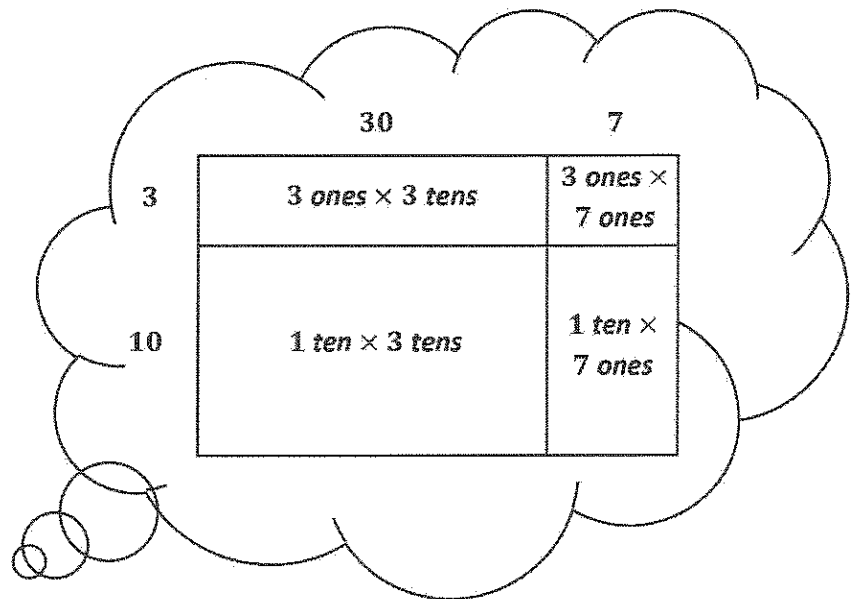
		30	3
5		<i>5 ones</i> × <i>3 tens</i>	<i>5 ones</i> × <i>3 ones</i>
10		<i>1 ten</i> × <i>3 tens</i>	<i>1 ten</i> × <i>3 ones</i>

$$\begin{array}{r}
 33 \\
 \times 15 \\
 \hline
 15 \\
 150 \\
 30 \\
 + 300 \\
 \hline
 495
 \end{array}$$

I write the expressions that represent the areas of the four smaller rectangles. I record each partial product vertically. I find the sum of the areas of the four smaller rectangles.

3. Visualize the area model, and solve the following numerically using four partial products. (You may sketch an area model if it helps.)

$$\begin{array}{r}
 37 \\
 \times 13 \\
 \hline
 21 \\
 90 \\
 70 \\
 + 300 \\
 \hline
 1 \\
 481
 \end{array}$$



To solve, I visualize the area model. I record the partial products. I find the total.