G5-M2-Lesson 10

1. Estimate the product. Solve using an area model and the standard algorithm. Remember to express your products in standard form.

I round 23 to the nearest ten, 2 tens, and 4.1 to the nearest one, 4 ones.

$23 \times 4.1 \approx \underline{20} \times \underline{4} = \underline{80}$

2 tens × 4 ones = 8 tens, or 80. This is the estimated product.

I rename 4.1 as 41 tenths and then multiply.

$$\begin{array}{r} 23 \\ \times\ 41 \\ \hline 23 \\ +\ 920 \\ \hline 943 \end{array}$$ (tenths)

943 (tenths) = 94.3

943 tenths, or 94.3, is the actual product, which is close to my estimated product of 80.

I decompose 23 to 20 + 3, and 41 tenths to 40 tenths + 1 tenth.

	40	+ 1 (tenths)	
3	120	3	123 *tenths*
+ 20	800	20	820 *tenths*

120 tenths + 3 tenths = 123 tenths.

800 tenths + 20 tenths = 820 tenths.

123 tenths + 820 tenths = 943 tenths, or 94.3.

2. Estimate. Then, use the standard algorithm to solve. Express your products in standard form.

I round 7.1 to the nearest one, 7 ones, and 29 to the nearest ten, 3 tens.

a. $7.1 \times 29 \approx$ 7 $\times$ 30 $=$ 210

7 ones × 3 tens = 21 tens, or 210. This is the estimated product.

$$\begin{array}{r} 7\ 1 \\ \times\ 2\ 9 \\ \hline 6\ 3\ 9 \\ +\ 1\ 4\ 2\ 0 \\ \hline \overset{1}{2},\ 0\ 5\ 9 \end{array}$$ *(tenths)* = 205.9

2,059 tenths, or 205.9, is the actual product, which is close to my estimated product of 210.

I round 182.4 to the nearest hundreds, 2 hundreds, and 32 to the nearest tens, 3 tens.

b. $182.4 \times 32 \approx$ 200 $\times$ 30 $=$ 6,000

2 hundreds × 3 tens = 6 thousandths, or 6,000. This is the estimated product.

$$\begin{array}{r} 1\ 8\ 2\ 4 \\ \times\ \ \ \ \ 3\ 2 \\ \hline \overset{1}{3}\ 6\ 4\ 8 \\ +\ \overset{2}{5}\ 4\ \overset{2}{7}\ 2\ 0 \\ \hline 5\ \overset{1}{8},\ 3\ 6\ 8 \end{array}$$ *(tenths)* = 5.836.8

58,368 tenths, or 5,836.8, is the actual product, which is close to my estimated product of 6,000.