G5-N/2-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.

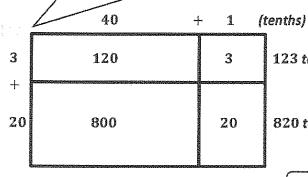
$$23 \times 4.1 \approx 20 \times 4 = 80$$

 $2 \text{ tens} \times 4 \text{ ones} = 8 \text{ tens, or } 80.$ This is the estimated product.

I rename 4.1 as 41 tenths and then multiply.

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.



123 tenths

120 tenths + 3 tenths = 123 tenths.

820 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 \times 3 tens = 21 tens, or 210. This is the estimated product.

7 1 (tenths)

$$\begin{array}{c}
 \times 2 & 9 \\
\hline
 6 & 3 & 9 \\
 + 1 & 4 & 2 & 0 \\
\hline
 2, 0 & 5 & 9 \text{ (tenths)} = 205.9
\end{array}$$

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 \times 3 tens = 6 thousandths, or 6,000. This is the estimated product.

1 8 2 4 (tenths)

$$\times$$
 3 2
 $\overline{}$ 3 6 4 8
+ 5 4 7 2 0
 $\overline{}$ 5 8, 3 6 8 (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.

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