

**Set A** pages 165–170, 171–176

Use the patterns in this table to find  $8.56 \times 10$  and  $0.36 \times 100$ .

Multiply by	Move the decimal point to the right
10	1 place
100	2 places
1,000	3 places

$$8.56 \times 10 = 85.6 = 85.6$$

$$0.36 \times 100 = 36.0 = 36$$

**Set B** pages 177–182, 183–188

Find  $12 \times 0.15$ .

**Step 1**

Multiply as you would with whole numbers.

$$\begin{array}{r} 12 \\ \times 0.15 \\ \hline 60 \\ + 120 \\ \hline 180 \end{array}$$

**Step 2**

Count the decimal places in both factors. Then, place the decimal point in the product the same number of places from the right.

So,  $12 \times 0.15 = 1.8$ .

$$\begin{array}{r} 12 \\ \times 0.15 \text{ 2 places} \\ \hline 60 \\ + 120 \\ \hline 1.80 \end{array}$$

**Remember** you can use rounding or compatible numbers to estimate.

Find each product.

- $10 \times 4.5$
- $10^3 \times 3.67$
- $100 \times 4.5$
- $0.008 \times 10^2$

Estimate each product.

- $0.38 \times 99$
- $8 \times 56.7$
- $11 \times 4.89$
- $24 \times 3.9$

**Remember** to count the decimal places in both factors before you place the decimal point in the product.

Find each product. Use grids or arrays as necessary.

- $50 \times 3.67$
- $5.86 \times 5$
- $14 \times 9.67$
- $8 \times 56.7$
- $11 \times 0.06$
- $2.03 \times 6$
- $25 \times 1.63$
- $5.62 \times 75$

**Reteaching**

Find  $8.2 \times 3.7$ .

Find the partial products and add.

$$\begin{array}{r}
 8.2 \\
 \times 3.7 \\
 \hline
 0.14 = 0.7 \times 0.2 \\
 5.6 = 0.7 \times 8 \\
 0.6 = 3 \times 0.2 \\
 + 24 = 3 \times 8 \\
 \hline
 30.34
 \end{array}$$

So,  $8.2 \times 3.7 = 30.34$ .

**Remember** that area models and arrays can help you find the product.

Find each product.

- |                      |                      |
|----------------------|----------------------|
| 1. $1.3 \times 0.4$  | 2. $5.8 \times 5.2$  |
| 3. $8.3 \times 10.7$ | 4. $3.4 \times 0.7$  |
| 5. $2.4 \times 3.6$  | 6. $9.7 \times 11.2$ |
| 7. $1.5 \times 0.6$  | 8. $67.5 \times 9.2$ |

Use properties to find  $0.8 \times 0.4$ .

Rewrite each decimal as a fraction. Then rewrite again using unit fractions. Next use the Associative and Commutative Properties to rearrange the fractions.

$$\begin{aligned}
 0.8 \times 0.4 &= \frac{8}{10} \times \frac{4}{10} \\
 &= \left(8 \times \frac{1}{10}\right) \times \left(4 \times \frac{1}{10}\right) \\
 &= (8 \times 4) \times \left(\frac{1}{10} \times \frac{1}{10}\right) \\
 &= 32 \times \frac{1}{100} \\
 &= 32 \times 0.01 \\
 &= 0.32
 \end{aligned}$$

So,  $0.8 \times 0.4 = 0.32$ .

**Remember** if two factors less than one are multiplied, their product is less than either factor.

Use properties to find each product. Write the product as a decimal.

- |                      |                      |
|----------------------|----------------------|
| 1. $0.6 \times 0.3$  | 2. $2.5 \times 0.7$  |
| 3. $0.04 \times 1.9$ | 4. $0.23 \times 0.8$ |
| 5. $0.1 \times 8.2$  | 6. $5.7 \times 3.6$  |
| 7. $4.2 \times 6.5$  | 8. $9.11 \times 0.3$ |

**Set E** pages 207–212

The decimal is missing in the product below. Use number sense to place the decimal point correctly.

$$43.5 \times 1.7 = 7395$$

Since 1.7 is greater than 1, the product will be greater than 43.5. Since 1.7 is about 2, the decimal point should be between the 3 and the 9.

$$\begin{array}{r} 43.5 \\ \times 1.7 \\ \hline 73.95 \end{array}$$

So,  $43.5 \times 1.7 = 73.95$ .

**Remember** that it may be helpful to compare each factor to 1 in order to determine the relative size of the product.

The decimal point is missing in each product. Use number sense to place the decimal point correctly.

1.  $4 \times 0.21 = 84$
2.  $4.5 \times 6.2 = 279$
3.  $7 \times 21.6 = 1512$
4.  $6.4 \times 3.2 = 2048$
5.  $31.5 \times 0.01 = 315$
6.  $1.4 \times 52.3 = 7322$
7.  $0.12 \times 0.9 = 108$
8.  $12.5 \times 163.2 = 2040$

**Set F** pages 213–218

Find  $52.5 \times 1.9$ .

Estimate:  $50 \times 2 = 100$ .

$$\begin{array}{r} 52.5 \leftarrow 1 \text{ decimal place} \\ \times 1.9 \leftarrow + 1 \text{ decimal place} \\ \hline 4725 \\ 5250 \\ \hline 99.75 \leftarrow 2 \text{ decimal places} \end{array}$$

The answer is reasonable because 99.75 is close to 100.

**Remember** to count the number of decimal places in both factors in order to place the decimal correctly in the product.

Find each product.

1.  $0.9 \times 0.11$
2.  $2.4 \times 3.67$
3.  $8.3 \times 10.4$
4.  $0.25 \times 0.3$
5.  $23.3 \times 6.5$
6.  $0.7 \times 31.4$
7.  $11.2 \times 9.7$
8.  $1.4 \times 9.67$

Think about these questions to help you **model with math**.

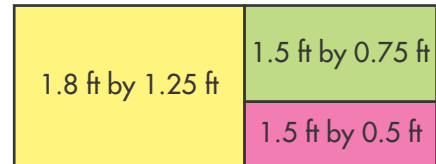
### Thinking Habits

- How can I use math I know to help solve this problem?
- How can I use pictures, objects, or an equation to represent the problem?
- How can I use numbers, words, and symbols to solve the problem?



**Remember** that you can write an equation to show how the quantities in a problem are related.

Mr. Jennings made the stained glass window below with the dimensions shown. What is the total area of the window?



1. What do you need to find first?
2. Write an equation to model the problem. Then solve the problem.

Patti went to the bakery. She bought a loaf of bread for \$3.49, 6 muffins that cost \$1.25 each, and a bottle of juice for \$1.79. She gave the cashier a \$20 bill.

3. What do you need to find first?
4. How much change should Patti receive? Write equations to show your work.