

## Lesson 3.2 Multiplying Decimals

### Multiply.

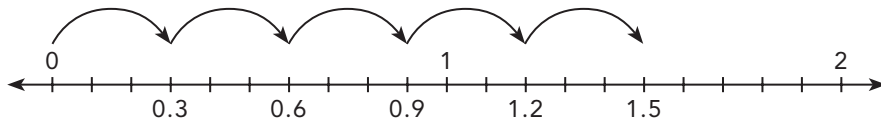
Example

$$0.3 \times 5$$

#### Method 1

$$0.3 \times 5 = 5 \times 0.3$$

$5 \times 0.3$  means 5 groups of 0.3.



$$\begin{aligned} 5 \times \underline{0.3} &= 5 \times \underline{3} \text{ tenths} \\ &= \underline{15} \text{ tenths} \\ &= \underline{1.5} \end{aligned}$$

From the number line,  
you can see that  $5 \times 0.3$   
 $= 0.3 + 0.3 + 0.3 + 0.3 + 0.3$

#### Method 2

$$\begin{array}{r} \text{Step 1} \\ \times \quad 3 \\ \hline 15 \end{array}$$

Step 1: Ignore the decimal point as you multiply.  
Step 2: Decide where to place the decimal point in the product.

$$\begin{array}{r} \text{Step 2} \\ \times \quad 0.3 \quad \leftarrow 1 \text{ decimal place} \\ \hline 1.5 \quad \leftarrow 1 \text{ decimal place} \end{array}$$



Name: \_\_\_\_\_

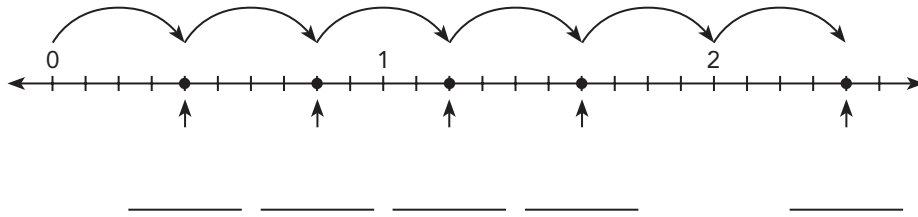
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1.  $0.4 \times 6$

**Method 1**

$$0.4 \times 6 = 6 \times 0.4$$

$6 \times 0.4$  means \_\_\_\_\_ groups of \_\_\_\_\_.



$$6 \times \underline{\hspace{2cm}} = 6 \times \underline{\hspace{2cm}} \text{ tenths}$$

$$= \underline{\hspace{2cm}} \text{ tenths}$$

$$= \underline{\hspace{2cm}}$$

**Method 2**

Step 1

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

Step 2

$$\begin{array}{r} 0.4 \\ \times 6 \\ \hline \end{array}$$

2.  $0.7 \times 5$

3.  $8 \times 0.3$

**Multiply.***Example*

$0.25 \times 7$

**Method 1**

$0.25 \times 7 = 7 \times 0.25$

 $7 \times 0.25$  means 7 groups of 0.25.

$$\begin{aligned}
 7 \times \underline{0.25} &= 7 \times \underline{25} \text{ hundredths} \\
 &= \underline{175} \text{ hundredths} \\
 &= \underline{1.75}
 \end{aligned}$$

From the number line, you can see that  
 $7 \times 0.25 = 0.25 + 0.25 + 0.25 + 0.25$   
 $+ 0.25 + 0.25 + 0.25$

**Method 2**

$$\begin{array}{r}
 \text{Step 1} \quad 25 \\
 \times \quad 7 \\
 \hline
 175
 \end{array}$$

Step 1: Ignore the decimal point as you multiply.  
 Step 2: Decide where to place the decimal point in the product.

Step 2

$$\begin{array}{r}
 0.25 \quad \leftarrow 2 \text{ decimal places} \\
 \times \quad 7 \\
 \hline
 1.75 \quad \leftarrow 2 \text{ decimal places}
 \end{array}$$



Name: \_\_\_\_\_

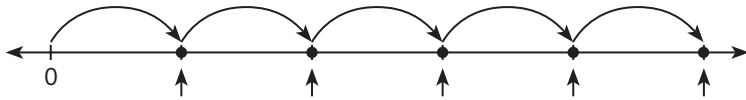
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4.  $0.19 \times 5$

**Method 1**

$$0.19 \times 5 = 5 \times 0.19$$

$5 \times 0.19$  means \_\_\_\_\_ groups of \_\_\_\_\_.



\_\_\_\_\_

$$5 \times \underline{\hspace{2cm}} = 5 \times \underline{\hspace{2cm}} \text{ hundredths}$$

$$= \underline{\hspace{2cm}} \text{ hundredths}$$

$$= \underline{\hspace{2cm}}$$

**Method 2**

$$\begin{array}{r} \text{Step 1} \quad 19 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Step 2} \quad 0.19 \\ \times \quad 5 \\ \hline \end{array}$$

5.  $0.56 \times 4$

6.  $3 \times 0.27$

**Multiply.***Example*

$0.6 \times 0.7$

**Method 1**

$$0.6 \times 0.7 = \frac{6}{10} \times \frac{7}{10}$$

Express the decimals as fractions.

$$= \frac{42}{100}$$

Multiply.

$$= \underline{0.42}$$

Express as a decimal.

**Method 2**

$$\begin{array}{r} \text{Step 1} \quad 6 \\ \times \quad 7 \\ \hline 42 \end{array}$$

Step 1: Ignore the decimal point as you multiply.  
Step 2: Decide where to place the decimal point in the product.



$$\begin{array}{r} \text{Step 2} \quad 0.6 \leftarrow 1 \text{ decimal place} \\ \times 0.7 \leftarrow + 1 \text{ decimal place} \\ \hline 0.42 \leftarrow 2 \text{ decimal places} \end{array}$$

**7.**  $0.8 \times 0.9$

**Method 1**

$0.8 \times 0.9 = \underline{\quad} \times \underline{\quad}$

Express the decimals as fractions.

$= \underline{\quad}$

Multiply.

$= \underline{\quad}$

Express as a decimal.

**Method 2**

$$\begin{array}{r} \text{Step 1} \quad 8 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Step 2} \quad 0.8 \\ \times \quad 0.9 \\ \hline \end{array}$$

**8.**  $0.7 \times 0.4$

**9.**  $0.6 \times 0.8$

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### Multiply.

Example

$$4.7 \times 0.9$$

$$\begin{array}{r} \text{Step 1} \quad 47 \\ \times \quad 9 \\ \hline 423 \end{array}$$

$$\begin{array}{r} \text{Step 2} \quad 4.7 \quad \leftarrow \quad 1 \text{ decimal place} \\ \times \quad 0.9 \quad \leftarrow \quad + 1 \text{ decimal place} \\ \hline 4.23 \quad \leftarrow \quad 2 \text{ decimal places} \end{array}$$

Step 1: Ignore the decimal point as you multiply.  
Step 2: Decide where to place the decimal point in the product.



10.  $8.2 \times 0.7$

$$\begin{array}{r} \text{Step 1} \quad 82 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Step 2} \quad 8.2 \\ \times \quad 0.7 \\ \hline \end{array}$$

11.  $5.7 \times 2.1$

$$\begin{array}{r} \text{Step 1} \quad 57 \\ \times \quad 21 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Step 2} \quad 5.7 \\ \times \quad 2.1 \\ \hline \end{array}$$

12.  $3.9 \times 0.5$

13.  $7.9 \times 2.6$

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### Multiply.

*Example*

$$0.18 \times 3.4$$

$$\begin{array}{r} \text{Step 1} \quad 18 \\ \times \quad 34 \\ \hline 72 \\ 540 \\ \hline 612 \end{array}$$

$$\begin{array}{r} \text{Step 2} \quad 0.18 \quad \leftarrow \quad 2 \text{ decimal places} \\ \times \quad 3.4 \quad \leftarrow \quad \underline{+ 1 \text{ decimal place}} \\ \hline 0.612 \quad \leftarrow \quad 3 \text{ decimal places} \end{array}$$

Step 1: Ignore the decimal points as you multiply.  
Step 2: Decide where to place the decimal point in the product.



**14.**  $0.39 \times 4.7$

$$\begin{array}{r} \text{Step 1} \quad 39 \\ \times \quad 47 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Step 2} \quad 0.39 \\ \times \quad 4.7 \\ \hline \end{array}$$

**15.**  $0.45 \times 6.1$

**16.**  $0.35 \times 0.62$