Multiplying Decimals

EXAMPLES Multiply Decimals

MAIN IDEA

• Multiply decimals by decimals.

1 **Find 8.3 × 2.9.**

Estimate $8.3 \times 2.9 \longrightarrow$ ☐ × ☐ or ☐

$$
\begin{array}{r}
8.3 \\
\times\ 2.9 \\
\hline
747 \\
166 \\
\hline
\end{array}
$$

8.3 ⟵ ☐ decimal place

× 2.9 ⟵ one decimal place

☐ ⟵ ☐ decimal places

The product is ☐. Compared to the estimate, the product is reasonable.

FOLDABLES™

ORGANIZE IT

Under Lesson 3-7 of your Foldable, outline the steps for multiplying decimals.

Chapter 3:
Operations
with
Decimals

2 **Find 0.12 × 5.3.**

Estimate $0.12 \times 5.3 \longrightarrow$ ☐ × ☐ or ☐

$$
\begin{array}{r}
0.12 \\
\times\ 5.3 \\
\hline
36 \\
60 \\
\hline
0.636 \\
\end{array}
$$

0.12 ⟵ ☐ decimal places

× 5.3 ⟵ one decimal place

0.636 ⟵ ☐ decimal places

The product is ☐. Compared to the estimate, the product is reasonable.

EXAMPLE Evaluate an Expression

3 **ALGEBRA** **Evaluate 6.8r if r = 0.92.**

$6.8r = 6.8 \times$ ☐   Replace r with ☐.

REMEMBER IT

There are several ways to show multiplication. The expression 6.8r means 6.8 × r.

$$
\begin{array}{r}
0.92 \\
\times\ 6.8 \\
\hline
736 \\
552 \\
\hline
\end{array}
$$

0.92 ⟵ ☐ decimal places

× 6.8 ⟵ one decimal place

☐ ⟵ ☐ decimal places

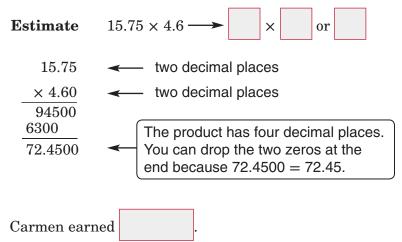## WRITE IT

How would you find the number of decimal places for the product of a number with two decimal places and a number with three decimal places?

_____

_____

_____

_____

Check Your Progress **Multiply.**

a. 3.8×2.3

b. 0.31×2.9

c. Evaluate $2.9w$ if $w = 0.046$.

EXAMPLE

4 **MONEY** **Carmen earns \$4.60 an hour working part-time as a painter's assistant. She worked a total of 15.75 hours one week. How much money did Carmen earn?**

Estimate $15.75 \times 4.6 \longrightarrow$ ☐ $\times$ ☐ or ☐

$$
\begin{array}{r}
15.75 \quad \longleftarrow \text{ two decimal places} \\
\times\ 4.60 \quad \longleftarrow \text{ two decimal places} \\
\hline
94500 \\
6300 \\
\hline
72.4500
\end{array}
$$

The product has four decimal places. You can drop the two zeros at the end because 72.4500 = 72.45.

Carmen earned ☐ .

Check Your Progress **MONEY** Susan earns \$5.80 an hour working at a local video store. She worked a total of 28.25 hours one week. How much money did she earn?

HOMEWORK ASSIGNMENT

Page(s):

Exercises: