

NAME \_\_\_\_\_

Module 5    Decimal Operations, Exponents, and Powers  
Lesson 4    Multiplying Decimals



**Set 1**

- 1 Explain how you could use money to model  $1.23 \times 2$ .

**Set 2**

- 1 Explain how you can use estimation to decide where to place the decimal point in the problem shown.

$$\begin{array}{r} 22.8 \\ \times 3.2 \\ \hline 7296 \end{array}$$

**Set 3**

Solve.

- 1  $0.05 \times 3.2 \times 0.24$
- 2 Explain why the product of a number greater than one and a number between zero and one is less than the number greater than one.
- 3 Explain why the product of two positive factors less than one is always less than each of the factors.

## Possible Answers

### Set 1

1. **1.23 in money is \$1.23. You can model that amount using one dollar bill, two dimes, and three pennies. To model  $1.23 \times 2$ , model \$1.23 again. Then, count the total amount of money. You will have two one-dollar bills, four dimes, and six pennies. That is \$2.46. So,  $1.23 \times 2 = 2.46$**

### Set 2

1. **To decide where to place the decimal point, make an estimate. The factors round to 23 and three. So, the estimated product is about 69. Placing the decimal point after the two makes the product 72.96, which is close to the estimate of 69.**

### Set 3

1. **0.0384**

$$\begin{array}{r} 3.2 \\ \times 0.05 \\ \hline 0.160 \end{array} \quad \begin{array}{r} 0.160 \\ \times 0.24 \\ \hline 640 \\ + 3200 \\ \hline 0.03840 \end{array}$$

2. **A decimal number between zero and one represents a fraction, or part, of a whole. When you multiply a number by a decimal between zero and one, you are finding a fraction, or part, of that number, which is less than that number. So, multiplying by a positive decimal less than one will always decrease a number. If one factor is a decimal between zero and one and the other factor is greater than one, the product will be less than the number greater than one.**
3. **Multiplying by a positive decimal less than one will always decrease a number. The product of two positive factors is less than each of the factors.**