

# 6-5 Multiplying and Dividing Decimals

(Pages 295–299)

<b>Multiplying Decimals</b>	<p>1. Multiply as you would with whole numbers.</p> <p>2. The number of decimal places in the product is equal to the sum of the number of decimal places in the factors. So, if each factor has one decimal place, then the product will have two decimal places.</p>
<b>Dividing Decimals</b>	To divide by a decimal, think of the division as a fraction, and rename the fraction as one with a whole number for its divisor, or denominator.

## EXAMPLES

**Solve each equation.**

**A**  $s = (3.3)(4.5)$   
 $s = (3.3)(4.5)$  *Multiply as with whole numbers.*

$$\begin{array}{r} 3.3 \quad \text{one decimal place} \\ \times 4.5 \quad \text{(+ one decimal place)} \\ \hline 165 \\ 1320 \\ \hline 14.85 \end{array}$$

*two decimal places*  
 $s = 14.85$

**B**  $b = 48 \div 0.12$   
 $b = 48 \div 0.12$  *Think of this division as a fraction.*

$$b = \frac{48}{0.12}$$

$$\frac{48}{0.12} \times \frac{100}{100} = \frac{4800}{12}$$

*Write the divisor (denominator) as a whole number.*

$$\begin{array}{r} 400 \\ 12 \overline{)4800} \\ \underline{48} \\ 0 \end{array}$$

*Divide.*  
 $b = 400$

### Try These Together

**Solve each equation.**

1.  $(5.3)(-1.2) = a$

2.  $n = (-5.5)(-4.2)$

3.  $-\frac{58}{2.9} = g$

*HINT: Add the decimal places in the factors to find the number of decimal places in the product.*

*HINT: Rewrite as  $\frac{580}{29}$ , then divide.*

## PRACTICE

**Solve each equation.**

4.  $t = (-2.3)(1.5)$

5.  $c = (0.25)(4.5)$

6.  $(-9.4)(-3.2) = h$

7.  $(-1.6)(4) = d$

8.  $p = (6.4) \div (-3.2)$

9.  $(-1.52)(-3.44) = w$

10.  $r = (-6.25) \div 2.5$

11.  $k = -30.25 \div 5.5$

12.  $s = -41 \div (-8.2)$

**Evaluate each expression. Round answers to the nearest hundredth.**

13.  $-5y$  if  $y = 0.01$

14.  $\frac{x}{y}$  if  $x = 2.2$  and  $y = 1.5$



**15. Standardized Test Practice** Evaluate the expression  $3x^2$  if  $x = 0.7$ .

**A** 0.21

**B** 0.49

**C** 0.7

**D** 1.47

<b>Answers:</b> 1. -6.36 2. 23.1 3. -20 4. -3.45 5. 1.125 6. 30.08 7. -6.4 8. -2 9. 5.2288 10. -2.5 11. -5.5 12. 5 13. -0.05 14. 1.47 15. D
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