

**CHAPTER  
1****Parents as Partners***For use with Expressions, Equations, and Functions*

**Chapter Overview** One way you can help your student succeed in this chapter is by discussing the lesson goals in the chart below. When a lesson is completed, ask your student the following questions. “What were the goals of the lesson? What new words and formulas did you learn? How can you apply the ideas of the lesson to your life?”

Lesson Title	Lesson Goals	Key Applications
<b>Evaluate Expressions</b>	Evaluate algebraic expressions and use exponents.	<ul style="list-style-type: none"> <li>• Movies</li> <li>• Storage Cubes</li> <li>• Football</li> </ul>
<b>Apply Order of Operations</b>	Use the order of operations to evaluate expressions.	<ul style="list-style-type: none"> <li>• Litter Collection</li> <li>• Sales</li> <li>• Online Shopping</li> </ul>
<b>Write Expressions</b>	Translate verbal phrases into expressions.	<ul style="list-style-type: none"> <li>• Tips</li> <li>• Cell Phones</li> <li>• Digital Photos</li> </ul>
<b>Write Equations and Inequalities</b>	Translate verbal sentences into equations or inequalities.	<ul style="list-style-type: none"> <li>• Mountain Biking</li> <li>• Compact Discs</li> <li>• Baking Measurements</li> </ul>
<b>Use a Problem Solving Plan</b>	Use a problem solving plan to solve problems.	<ul style="list-style-type: none"> <li>• Running</li> <li>• Framing</li> <li>• Hiking</li> </ul>
<b>Use Precision and Measurement</b>	Compare measurements for precision	<ul style="list-style-type: none"> <li>• Reflecting Pool</li> <li>• Health</li> <li>• Gardening</li> </ul>
<b>Represent Functions as Rules and Tables</b>	Represent functions as rules and as tables.	<ul style="list-style-type: none"> <li>• Concert Tickets</li> <li>• Yard Sale</li> <li>• Savings</li> </ul>
<b>Represent Functions as Graphs</b>	Represent functions as graphs.	<ul style="list-style-type: none"> <li>• SAT Scores</li> <li>• Guitar Sales</li> <li>• Elections</li> </ul>

**Big Ideas for this Chapter**

In this chapter, you will apply the big ideas listed in the Chapter Opener and reviewed in the Chapter Summary.

1. Writing and evaluating algebraic expressions
2. Using algebraic expressions to write equations and inequalities
3. Representing functions as verbal rules, equations, tables, and graphs

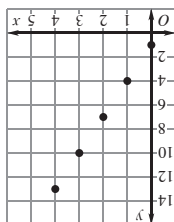
**CHAPTER 1** **Parents as Partners** *continued*  
For use with Expressions, Equations, and Functions

**Key Ideas** Your student can demonstrate understanding of key concepts by working through the following exercises with you.

Lesson	Exercise
<b>Evaluate Expressions</b>	Find the volume of a cube-shaped CD player, where each side $s$ is 23 centimeters. Use the formula $V = s^3$ .
<b>Apply Order of Operations</b>	Evaluate $10(x - 3) + 6$ and $10x - 3 + 6$ when $x = 5$ .
<b>Write Expressions</b>	The student council is holding a craft show as a fundraiser. Each exhibitor is charged \$40 for a table and the admission price is \$3.50 per person. Write an expression for the amount (in dollars) raised. There are 38 exhibitors and 420 people attend the craft show. Find the amount raised.
<b>Write Equations and Inequalities</b>	It costs \$380 to attend a leadership conference. The school will contribute \$75. You can save \$35 per week. Use the inequality $35w + 75 \geq 380$ to model the situation. What does $w$ represent? How many weeks will it take to save enough money?
<b>Use a Problem Solving Plan</b>	You are framing a picture that is 9.5 inches long and 7 inches wide. The picture is bordered by 2-inch matting. The wood to make the frame is 1.5 inches wide. Find the length and width of the frame. What is the total area of the framed picture? Use a problem solving plan to find the solution.
<b>Use Precision and Measurement</b>	At the gas pump, the meter reads 12.82 gallons. Ted says he bought 12.8 gallons of gas. Which measurement is more precise?
<b>Represent Functions as Rules and Tables</b>	Make a table for the function $y = 2x - 2$ with domain 1, 2, 3, 4, and 5. Identify the range of the function.
<b>Represent Functions as Graphs</b>	Graph the function $y = 3x + 1$ with domain 0, 1, 2, 3, and 4.

**Home Involvement Activity**

**Directions** Use exactly five 5's and grouping symbols to make each whole number from one to ten. For example,  $1 = \frac{5}{5} + \left(\frac{5 - 5}{5}\right)$ .



<b>y</b>	0	2	4	6	8
<b>x</b>	1	2	3	4	5

**Answers**  
 1: 12, 16 cm<sup>3</sup> 2: 26; 53 3:  $40e + 3.5p$ ; \$2990 4:  $w$  represents the number of weeks needed to save; 9 weeks 5: 16.5 in.; 14 in.; 321 in.<sup>2</sup> 6: 12.82  
 7: range: 0, 2, 4, 6, 8 8: