

## Family Letter

Dear Student and Family Members,

Our next chapter in mathematics is about solving equations. This is one of the most important and most frequently used mathematical skills, one with many applications in the sciences, social studies, and everyday life. Solving equations can help us figure out how many gallons of gas you will need to drive 500 miles. Scientists launching a satellite, economists making predictions, and citizens working out income taxes all have to solve complex equations.

We have learned several methods for solving equations in earlier grades. In this chapter, we will review and extend these methods to solve inequalities and systems of two equations with two variables. We will also learn how to use graphing calculators to find approximate solutions to equations and pairs of equations.

Situations involving inequalities are common in daily life. For example, if you go to the store with \$5.00 and want to buy markers at \$1.95 each and ink pads at \$0.59 each, the inequality

$$1.95m + 0.59p \leq 5.00$$

tells which combinations of markers and pads you will be able to buy. In this example, 1 marker and 5 pads, or 2 markers and 2 pads, will satisfy the inequality.

We will also learn to solve systems of equations with two variables. In such problems, we have to find a pair of values that satisfies *both* equations. For example:

In a game of basketball, Corrine scored 10 times for a total of 23 points. Some of the shots were 2-point shots, and some were 3-point shots. How many of each type did Corinne score?

To answer this question, we set up the system of equations below, where  $x$  represents the number of 2-point baskets and  $y$  stands for the number of 3-pointers:

$$x + y = 10 \quad \text{and} \quad 2x + 3y = 23$$

**Vocabulary** Along the way, we'll be learning about these new vocabulary terms:

**elimination  
inequality**

**substitution  
system of equations**

### What can you do at home?

Ask your student to show you some of the equations he or she is solving, and methods for solving them. Encourage your student to think about ways these skills can be used outside of school.

