

## Family Letter

### Dear Parent or Guardian:

Knowing how to use polynomials can help you solve problems as diverse as those found in interest rates and finance and in designing buildings. In our math class, we strive to connect math concepts to the real world so students can see how the math is used.

In **Chapter 12, Algebra: Nonlinear Functions and Polynomials**, your child will learn how to identify linear and nonlinear functions and graph quadratic functions. Your child will also learn how to model, simplify, add, subtract, multiply, and factor polynomials. In the study of this chapter, your child will complete a variety of daily classroom assignments and activities and possibly produce a chapter project.

By signing this letter and returning it with your child, you agree to encourage your child by getting involved. Enclosed is an activity you can do with your child that also relates the math we will be learning in Chapter 12 to the real world. You may also wish to log on to the **Online Study Tools** for self-check quizzes, Parent and Student Study Guide pages, and other study help at **[www.msmath3.net](http://www.msmath3.net)**. If you have any questions or comments, feel free to contact me at school.

Sincerely,

Signature of Parent or Guardian \_\_\_\_\_ DATE \_\_\_\_\_

## Family Activity

### Collection Time

Collect several coins. Use  $q$  for quarters,  $d$  for dimes,  $n$  for nickels, and  $p$  for pennies to represent all of the coins you have as a polynomial expression in simplest form. For example, if you have 3 quarters, 4 dimes, 8 nickels, and 13 pennies, your expression is  $3q + 4d + 8n + 13p$ . Evaluate the expression to find out how much money you have. To do this, replace each variable with the value of the coin it represents:  $3(0.25) + 4(0.10) + 8(0.05) + 13(0.01)$ . Then evaluate the expression to get \$14.55.

Work with a family member to answer the following questions.

1. Collect six canned food items. Write a polynomial expression in simplest form that represents the number of different canned food items you have.
2. Collect several shirts of different colors. Using variables like  $b$  for a blue shirt,  $r$  for a red shirt,  $g$  for a green shirt,  $y$  for a yellow shirt, and  $s$  for a striped shirt, represent all of the shirts you have as a polynomial expression in simplest form.
3. Have a family member collect a number of tomatoes, carrots, onions, and potatoes. Using  $t$  for tomato,  $c$  for carrot,  $o$  for onion, and  $p$  for potato, represent the number of vegetables using a polynomial expression.
4. Next, collect more of the same vegetables that your family member collected. Represent the number of these vegetables using a polynomial expression. Combine the polynomials from Exercises 3 and 4 to find the total number of vegetables.