

## Family Letter

### Dear Parent or Guardian:

Probability is used in such diverse areas as weather forecasting, business, and genetics. We use combinations and permutations to determine the number of possible outcomes in a given situation. This type of information helps us to decide how to spend our money or to predict the color of a puppy's fur.

In **Chapter 9, Probability**, your child will learn about probability, permutations, and combinations. 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 9 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.msmath2.net](http://www.msmath2.net). If you have any questions or comments, feel free to contact me at school.

Sincerely,

Signature of Parent or Guardian \_\_\_\_\_ Date \_\_\_\_\_

## Family Activity

### How Many Ways?

Work with a family member to answer the following questions. Recall that the Counting Principle states: If event M can occur in  $m$  ways and is followed by an event N that can occur in  $n$  ways, then the event M followed by N can occur in  $m \times n$  ways. Use the Counting Principle to find the total number of outcomes in each situation.

1. Name four types of cake that you like. Have a family member name two types of ice cream. Record your answers in the space below. How many ways can you combine one type of cake and one type of ice cream?
  
  
  
  
  
  
  
  
  
  
2. Have a family member list three different types of bread, two types of cheese, and four types of sandwich meat. Record your answers in the space below. How many ways can you combine one type of bread, one type of cheese, and one type of meat?
  
  
  
  
  
  
  
  
  
  
3. Have a family member name five favorite books. Name four of your favorite movies and three of your favorite television shows. Record your answers in the space below. How many ways could you combine one book, one movie, and one television show?
  
  
  
  
  
  
  
  
  
  
4. Name two types of vegetables that you like. Have a family member name two types of fruit. Name three types of dairy products. Record your answers in the space below. How many ways can you combine one vegetable, one fruit, and one dairy product?

4. 12

3. 69

2. 24

1. 8