10 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 10, Probability,** your child will learn probability, simple events, sample spaces, the fundamental counting principle, permutations, combinations, theoretical and experimental probability, and independent events. Your child will also learn the problem solving strategy of acting it out. 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 practices how the math we will be learning in Chapter 10 might be tested. You may also wish to log on to **www.msmath2.com** for self-check quizzes and other study help. If you have any questions or comments, feel free to contact me at school.
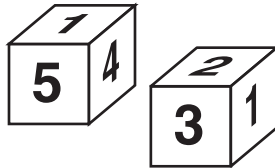
Sincerely,

Signature of Parent or Guardian _____ Date _____

10 Family Activity
State Test Practice

Fold the page along the dashed line. Work each problem on another piece of paper. Then unfold the page to check your work.

1. Joshua is playing a game with his friends. The object of the game is to get a sum of 9 when two standard number cubes are rolled.

How many possible ways are there for rolling two number cubes? How many of these ways have a sum of 9?

A 36 ways; 4 with a sum of 9
B 36 ways; 8 with a sum of 9
C 16 ways; 4 with a sum of 9
D 16 ways; 8 with a sum of 9

2. Justine is designing a probability experiment in which she can simulate finding the probability of getting snow overnight if the weatherman said that there is a 25% chance that the precipitation overnight will be rain, a 50% chance that the precipitation will be snow, and a 25% chance that there will be no precipitation at all.

Which of the following would best simulate what might happen overnight?

A toss a coin
B spin a spinner with four equal sections
C roll a standard number cube
D pick from 25 marbles in a bag

Fold here.
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Solution
1. Since there are 6 possible outcomes for each die, there are 6 × 6 or 36 possible rolls.

In order for the sum of the dice to be 9, we can have the following combinations:

Die 1	Die 2
3	6
6	3
4	5
5	4

There are 4 possible combinations that will result in a sum of 9.

Solution
2. *Hint: Consider the number of outcomes possible and consider their probabilities as fractions of a whole.*

The probabilities can all be expressed in terms of $\frac{1}{4}$. Choice B is the only option that represents fourths.

The answer is **A.**

The answer is **B.**