Practice 10-4

A drawer contains 3 black socks and 2 white socks. A sock is drawn at random and then replaced. Find each probability.

1. \( P(2 \text{ blacks}) \)
2. \( P(\text{black, then white}) \)
3. \( P(\text{white, then black}) \)

Each letter from the word MASSACHUSETTS is written on a separate slip of paper. The 13 slips of paper are placed in a sack and two slips are drawn at random. The first pick is not replaced.

4. Find the probability that the first letter drawn is \( M \) and the second letter is \( S \).

5. Find the probability that the first letter drawn is \( S \) and the second letter is \( A \).

Solve.

6. On a TV game show, you can win a car by drawing a 1 and a 15 from a stack of cards numbered 1–15. The first card you draw is not replaced. What is your probability of winning?

7. There are 4 brown shoes and 10 black shoes on the floor. Your puppy carries away two shoes and puts one shoe in the trash can and one shoe in the laundry basket.

   a. What is the probability that there will be a black shoe in the trash and a brown shoe in the laundry basket?

   b. What is the probability that there will be a brown shoe in both the trash and the laundry basket?