

# Probability, Dependent Events

①

## Probability of Dependent Events

1. Four red and three blue marbles are in a bag. What is the probability of randomly choosing 2 blue marbles if the first marble is not replaced?

②

2. Two letters are randomly selected from the word PRIME. What is the probability that both letters selected are vowels? The first letter is not replaced.

For Exercises 3-6, use the information below.

A standard deck of playing cards contains 52 cards in four suits of 13 cards each. Two suits are red and two suits are black. Find each probability. Assume the first card is not replaced before the second card is drawn. Each card is chosen randomly.

3.  $P(\text{black, red})$

4.  $P(\text{diamond, diamond})$

5.  $P(\text{jack, queen})$

6. A card is chosen at random from a deck of 52 cards. It is not replaced and a second card is randomly chosen. What is the probability of getting a jack and then an eight?

④

7. Two cards are chosen at random from a standard deck of cards without replacement. What is the probability of getting 2 hearts?

8. A CD rack has 8 classical CDs, 5 pop CDs, and 3 rock CDs. One CD is randomly chosen and then a second CD is randomly chosen without replacement. What is the probability of choosing a rock CD then a classical CD?

⑤

9. A jar holds 15 red pencils and 10 blue pencils. What is the probability of randomly drawing one red pencil and then one blue from the jar? The first pencil is not replaced.

⑥

10 0

$$\frac{15}{52} \cdot \frac{10}{47} = \frac{30}{120} = \frac{1}{4}$$

$\frac{5}{120}$

21  
3  
4  
0.4