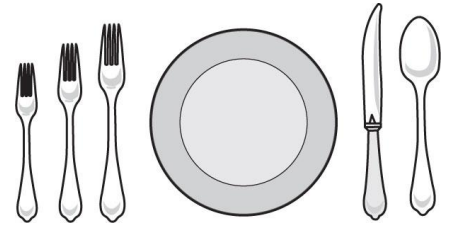


# 13-2 Practice

## Probability with Permutations and Combinations

1. **FORMAL DINING** You are handed 5 pieces of silverware for the formal setting shown. If you guess their placement at random, what is the probability that the knife and spoon are placed correctly?



$$\frac{1}{20}$$

2. **GOLF** The standings list after the first day of a 3-day tournament is shown below. What is the probability that Wyatt, Gabe, and Isaac will all finish in the top 3?

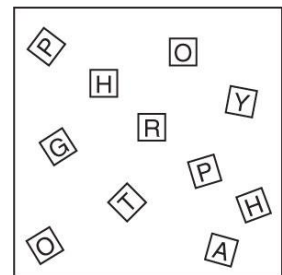
DAY 1 STANDINGS	
MCAFEE, DAVID	-3
FORD, GABE	-2
STANDISH, TRISTAN	-2
NOCHOLS, WYATT	-1
PURCELL, JACK	-1
ANDERSON, BILL	-1
WRIGHT, ISAAC	-1
FILBERT, MITCH	+1

$$\frac{1}{56}$$

3. **PHONE NUMBER** What is the probability that a phone number generated using the digits 1, 2, 2, 4, 5, 5, 6, and 2 is the number 654-5222?

$$\frac{1}{3360}$$

4. **LETTERS** Jaclyn bought some decorative letters for a scrapbook project. If she selected a permutation of the letters shown, what is the probability that they would form the word “photography”?



$$\frac{1}{4,989,600}$$

5. **COFFEE BREAK** A group of 6 friends of varying ages meets at a coffee shop and sits in a circle. What is the probability that the youngest member of the group sits in the seat closest to the door?

$$\frac{1}{6}$$

6. **JEWELRY** Bonita bought her mom a charm bracelet. Each charm is labeled with a one-word message. What is the probability that the 5 charms were hung in the order: dream, believe, love, laugh, inspire?

$$\frac{1}{24}$$

7. **COLLEGES** Mark wants to visit the 10 colleges he is considering attending. He can only spend the night at 3 of them. What is the probability that he spends a night at Rutgers University, a night at the University of Miami, and a night at Clemson University?

$$\frac{1}{120}$$

8. **ODD JOBS** Matthew put fliers advertising his lawn service on the doors of 20 families’ houses in his neighborhood. If 6 families called him, what is the probability that they were the Thompsons, the Rodriguezes, the Jacksons, the Williamses, the Kryceks, and the Carpenters?

$$\frac{1}{38,760}$$