LESSON	**Practice A**
11-4	*Compound Events*

Determine which event(s) are mutually exclusive.

1. Students are forming 4 softball teams by each picking one of four different-color cards from a bag. Are the events "choosing a red card" and "choosing a blue card" mutually exclusive? Explain why or why not.

   _____

2. Are the events "choosing a black card" from a deck of playing cards and "choosing a 10" mutually exclusive? Explain why or why not.

   _____

Solve.

3. Apples are in $\frac{1}{4}$ of all of the lunch bags that are distributed at a school picnic, and bananas are in $\frac{1}{3}$ of the bags. What is the probability of randomly choosing a lunch bag that contains either an apple or a banana?   _____

4. A group of senior citizens have won free vacation packages. The vacation to Bermuda is chosen by 25% of them, 60% choose Alaska, and 15% choose Costa Rica. What is the probability that one randomly selected senior citizen chooses to vacation in Costa Rica or Bermuda?   _____

Pam rolls a 1–6 number cube. Find each probability.

5. Pam rolls a 3 or a 6.   _____

6. Pam rolls an even number.   _____

7. Pam rolls an odd or even number.   _____

8. Pam rolls an odd number or a 3.   _____

9. Pam rolls an odd number or a number greater than 4.   _____

Use the data to fill in the Venn diagram. Then solve.

10. Of the 65 students going on the soccer trip, 43 are players and 12 are left-handed. Only 5 of the left-handed students are soccer players. What is the probability that one of the students on the trip is a soccer player or is left-handed?   _____

Soccer players   Left-handed
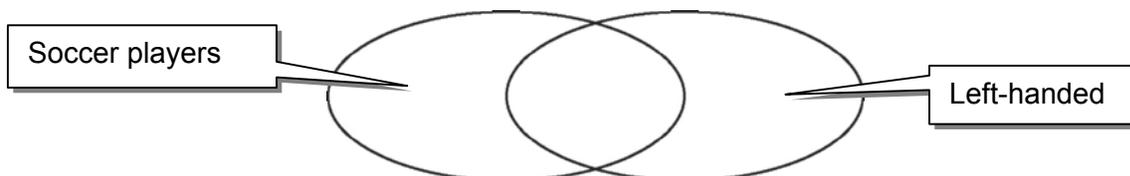
2. a. $\dfrac{1}{6}$

   b. $\dfrac{1}{2}$

   c. $\dfrac{1}{12}$

3. a. $\dfrac{10}{13}$

   b. $\dfrac{13}{17}$

   c. $\dfrac{10}{17}$

4. a. $\dfrac{10}{13}$

   b. $\dfrac{4}{17}$

   c. $\dfrac{40}{221}$

Challenge

1. HHHTHT   5. $t = 12$; 12 s
6. $t = 14$; 1 s
7. Does not exist; 15 s
8. a. possible answer: 80%

   b. possible answer: 6 tosses
9. The performance of a stock over time

Problem Solving

1. a. $P(10) = \dfrac{135}{440}$

   b. $P(Tr \mid 10) = \dfrac{6}{135}$

   c. $P(10 \text{ and } Tr) = \dfrac{6}{440} \approx 0.014$

2. a. $P(12) = \dfrac{85}{440}$

   b. $P(Tr \text{ or } Te \mid 12) = \dfrac{7+12}{85} = \dfrac{19}{85}$

   c.
   $P(12 \text{ and } (Tr \text{ or } Te)) = \dfrac{19}{85} \cdot \dfrac{85}{440} \approx 0.043$

3. a. $\dfrac{19}{440}$

   b. $\dfrac{6}{439}$

   c. $\dfrac{19}{440} \cdot \dfrac{6}{439} \approx 0.0006$

   d. Dependent; possible answer: the second student is one of the remaining 439 students.

4. D   5. F

Reading Strategy

1. Independent   2. Independent
3. Dependent   4. Independent
5. Independent   6. Dependent
7. Dependent   8. Event 1
9. Event 2

LESSON 11-4

Practice A

1. These events are mutually exclusive since each student can choose only one card.

2. These events are not mutually exclusive since a card can be both black and a 10.

3. $\dfrac{7}{12}$ 4. $\dfrac{2}{5}$

5. $\dfrac{1}{3}$ 6. $\dfrac{1}{2}$

7. 1   8. $\dfrac{1}{2}$

9. $\dfrac{2}{3}$ 10. $\dfrac{10}{13}$ or 0.77

Practice B

1. These events are mutually exclusive because each can contains only one type of vegetable.