

LESSON  
13.4**Practice B**

For use with pages 861–867

**In Exercises 1–4, you draw a card from a bag that contains 4 yellow cards numbered 1–4 and 5 blue cards numbered 1–5. Tell whether the events **A** and **B** are *mutually exclusive* or *overlapping*. Then find  $P(\mathbf{A \text{ or } B})$ .**

- |  |   |
|--|---|
| <p><b>1. Event A:</b> You choose a card with an even number.<br/><b>Event B:</b> You choose a number 4 card.</p> | <p><b>2. Event A:</b> You choose a yellow card.<br/><b>Event B:</b> You choose a number 5 card.</p>         |
| <p><b>3. Event A:</b> You choose a blue number 3 card.<br/><b>Event B:</b> You choose a blue card.</p>           | <p><b>4. Event A:</b> You choose a card with an odd number.<br/><b>Event B:</b> You choose a blue card.</p> |

**In Exercises 5 and 6, tell whether the events **A** and **B** are *dependent* or *independent*. Then find  $P(\mathbf{A \text{ and } B})$ .**

- 5.** A bag contains 6 red balls and 5 green balls. You randomly draw one ball, replace it, and randomly draw a second ball.  
**Event A:** The first ball is green.  
**Event B:** The second ball is green.
- 6.** You write each of the letters of the word BRILLIANT on pieces of paper and place them in a bag. You randomly draw one letter, do not replace it, then randomly draw a second letter.  
**Event A:** The first letter is an L.  
**Event B:** The second letter is a T.
- 7. Eating Habits** A survey of 500 students in a school found that about 100 households consist of only vegetarians, 240 consist of vegetarians and non-vegetarians, and 160 consist of non-vegetarians.
- What is the probability that one of the households surveyed, chosen at random, consists of vegetarians or non-vegetarians?
  - What is the probability that one of the households surveyed, chosen at random, consists of vegetarians and non-vegetarians?
  - Explain* how your answers to parts (a) and (b) are related.
- 8. Coordinating Time** You study with a group for an upcoming math competition on Mondays, Tuesdays, and Thursdays. You volunteer at a hospital on Mondays, Wednesdays, and Thursdays.
- Make a Venn diagram that shows the days of the week that you participate in each activity.
  - Your class is taking a field trip that could be scheduled for any day of the week (Monday through Friday). Find the probability that it is scheduled for a day when you are studying with your group or are volunteering.