



## 11-1 Permutations and Combinations

- Frank's access code for his garage door consists of 4 digits from 0 through 9. How many possible access codes are there if no digit can be repeated?
- Kara picks a dozen flowers from her back yard. How many ways can she choose 3 flowers from the bouquet?
- Find the number of ways to arrange 3 compact discs from a selection of 7 compact discs in a CD player.




## 11-2 Theoretical and Experimental Probability

- A candy jar contains 13 peppermint candies, 9 strawberry candies, 4 lemon candies, and 6 root beer flavored candies. If a child selects a candy from the jar without looking, what is the probability that the child will select a lemon candy?
- Weston has 7 strands of holiday lights in a box. Two of the strands do not work. If he selects 2 strands from the box, what is the probability that both strands do not work?
- Sue tosses a beanbag onto a rectangular rug. If the beanbag does not touch a line, what is the probability that the beanbag landed in a shaded area?



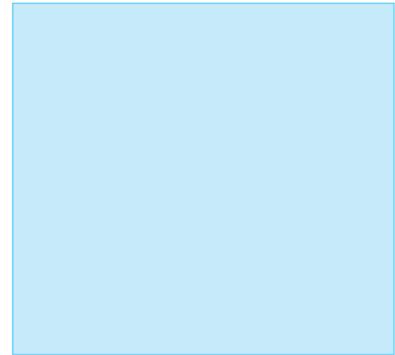


- A number cube is rolled 48 times, and a 6 is rolled 14 times. Find the experimental probability of not rolling a 6.

## 11-3 Independent and Dependent Events

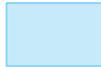
- Explain why the event of rolling one die and getting a 6 on two turns in a row while playing a board game are independent. Then find the probability.

9. A golf bag contains 4 white golf balls and 2 yellow golf balls. Explain why the events of “choosing a white golf ball then choosing a yellow golf ball” without replacing the white golf ball are dependent, and find the probability.

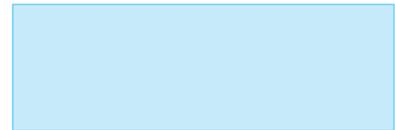


10. The table shows the breakdown by age of preschoolers that were screened by a pediatric optometrist that wear glasses. Find the probability that a 3-year-old preschooler wears glasses.

Preschoolers by Age		
	Wears Glasses	Does Not Wear Glasses
3 yr	2	43
4 yr	3	36
5 yr	5	47



11. A bag contains 15 marbles; 10 red and 5 blue. Determine whether the events “a red marble is selected, not replaced, then a blue marble is selected” is independent or dependent, and find the probability.



### 11-4 Compound Events

A standard deck of cards is in a pile face down. One card is drawn. Find each probability.

12. drawing a 9 or a queen



13. drawing a red card or an ace



14. A dog pound currently has 35 dogs; 20 are puppies and 15 have collars. Half of the puppies have collars. What is the probability that an adult dog does not have a collar?

