Extra Practice

Chapter 11

11.1 **In Exercises 1 and 2, use the following information. A bag contains 3 red, 3 blue, and 3 yellow marbles. You toss a coin and then draw a marble out of the bag at random.**

1. Find the number of possible outcomes in the sample space. Then list the possible outcomes.
2. What is the probability that the coin shows tails and the marble is blue?

11.1 3. You toss a coin 3 times. What are the odds against the coin's showing heads twice and tails once?

11.2 4. In how many ways can you arrange the letters in the word SPRING?

5. In how many ways can you arrange 3 of the letters in the word TULIP?

11.2 **Evaluate the expression.**

6. $7!$ 7. ${}_8P_3$ 8. ${}_{10}P_3$ 9. ${}_5P_5$

11.3 10. You can choose 3 books from a list of 5 books to read for English class. How many combinations of 3 books are possible?

11. You are making a snack tray. You plan to choose 3 of 5 available types of bread and 3 of 6 available types of cheese. How many different combinations of bread and cheese are possible?

11.3 **Evaluate the expression.**

12. ${}_6C_2$ 13. ${}_7C_3$ 14. ${}_{10}C_4$ 15. ${}_{20}C_{15}$

11.4 **Events A and B are disjoint. Find $P(A \text{ or } B)$.**

16. $P(A) = 0.4, P(B) = 0.15$ 17. $P(A) = 0.3, P(B) = 0.5$ 18. $P(A) = 0.7, P(B) = 0.21$

11.4 **Find the indicated probability. State whether A and B are disjoint events.**

19. $P(A) = 0.25$
$P(B) = 0.55$
$P(A \text{ or } B) =$?
$P(A \text{ and } B) = 0.2$

20. $P(A) = 0.52$
$P(B) = 0.15$
$P(A \text{ or } B) = 0.67$
$P(A \text{ and } B) =$?

21. $P(A) = 0.54$
$P(B) = 0.28$
$P(A \text{ or } B) = 0.65$
$P(A \text{ and } B) =$?

22. $P(A) = 0.5$
$P(B) = 0.4$
$P(A \text{ or } B) =$?
$P(A \text{ and } B) = 0.3$

11.4 **A card is randomly selected from a standard deck of 52 cards. Find the probability of drawing the given card.**

23. a jack *and* a club 24. an ace *or* a 10 25. a queen *or* a heart

11.5 **Events A and B are independent. Find the missing probability.**

26. $P(A) = 0.8$
$P(B) = 0.25$
$P(A \text{ and } B) =$?

27. $P(A) =$?
$P(B) = 0.4$
$P(A \text{ and } B) = 0.05$

28. $P(A) = 0.9$
$P(B) =$?
$P(A \text{ and } B) = 0.27$

11.5 **Events A and B are dependent. Find the missing probability.**

29. $P(A) = 0.4$
$P(B \mid A) = 0.6$
$P(A \text{ and } B) =$?

30. $P(A) =$?
$P(B \mid A) = 0.75$
$P(A \text{ and } B) = 0.3$

31. $P(A) = 0.15$
$P(B \mid A) =$?
$P(A \text{ and } B) = 0.03$