For #1-4, a number cube is rolled, and the spinner is spun. Find each probability.

1. P(5 and E) 2. P(2 and vowel)

3. P(3 and Consonant) 4. P(factor of 6 and D)

5. Meg has 2 pair of black pants, 3 pairs of blue pants, and 1 pair of tan pants. She also has 4 white and 2 red shirts. If Meg chooses a pair of pants and a shirt at random, what is the probability that she will choose a pair of black pants and a white shirt?

6. The numbers 0-9 are each written on a piece of paper and placed in a hat. Two slips of paper are randomly selected, without replacing the first. What is the probability that the number 0 is drawn first and then the number 7 is drawn?

For #7-10, a number cube is rolled. Find each probability.

7. P(4 or 5) 8. P(3 or Even Number)

9. P(1 or multiple of 2) 10. P(6 or Number Less than 3)

11. A shelf has books A, B, and C on it. You pick a book at random, place it on the table, and then pick a second book. Explain why the probability that you picked books A and B is NOT 1/9.

12. What is the probability of spinning a red, the number 1, and the letter A on the three spinners below?

13. Julia has two boxes of juice pops with an equal number of pops in each flavor. Find the probability of randomly selecting a grape juice pop from the first box and randomly selecting a juice pop that is not grape from the second box.

14. Abe randomly selects two pieces of fruit from a basket containing 8 oranges and 4 apples without replacing the first fruit. Find the probability that he selects two oranges.

15. The names of 24 students, of which 14 are girls and 10 are boys, are written on cards and placed in a jar. Two cards are randomly selected without replacing the first. Find the probability that two boys are selected.

For #16-19, a day of the week is randomly selected. Find each probability

16. P(Monday or Tuesday) 17. P(A Day Beginning with T or Friday)

18. P(A Weekday or Saturday) 19. P(Wednesday or a Day with 6 Letters)

For #20-24, a coin is tossed twice, and a letter is randomly picked from the word *EVENT*. Find each probability

20. P(Two Heads and T) 21. P(Tails, not Tails, Consonant)

22. P(Heads, Tails, not V) 23. P(Two Tails and a Vowel)

24. Josh is going to roll a number cube 30 times. How many times should he expect to roll a number greater than 2?

25. On the weekend Marshall needs to do laundry, mow the lawn, and clean his room. How many different ways can he do these three chores?

For #26-27, use the spinner shown.

26. Use a list or tree diagram to construct a sample space of all possible outcomes of three successive spins.

27. Suppose the spinner is designed so that for each spin there is a 40% probability of spinning red and a 20% chance of spinning blue. What is the probability of spinning two reds and then one blue?

28. Matt has set two of his lights on timers. He always has at least one light on between the hours of 8pm and 7am. Light A is on 30% of the time, and Light B is on 70% of the time. What is the probability both lights are on at the same time?