Name _____ Class _____ Date _____

Practice 1-6

Probability

1. You select a number at random from the sample space {1, 2, 3, 4, 5}. Find each theoretical probability.
   - **a.** P(the number is 2)
   - **b.** P(the number is even)
   - **c.** P(the number is prime)
   - **d.** P(the number is less than 5)

2. In a class of 19 students, 10 study Spanish, 7 study French, and 2 study both French and Spanish. One student is picked at random. Find each probability.
   - **a.** P(studying Spanish but not French)
   - **b.** P(studying neither Spanish nor French)
   - **c.** P(studying both Spanish and French)
   - **d.** P(studying French)

3. In a telephone survey of 150 households, 75 respondents answered "Yes" to a particular question, 50 answered "No," and 25 were "Not sure." Find each experimental probability.
   - **a.** P(answer was "Yes")
   - **b.** P(answer was "No")
   - **c.** P(answer was "Not sure")
   - **d.** P(answer was not "Not sure")

4. A wallet contains four bills with denominations of \$1, \$5, \$10, and \$20. You choose two of the four bills from the wallet at random and add the dollar amounts.
   - **a.** What is the sample space? How many outcomes are there?
   - **b.** What is the probability of getting \$15?
   - **c.** What is the probability of getting \$50?
   - **d.** What is the probability of getting at least \$25?

5. A basketball player has attempted 24 shots and made 13. Find the experimental probability that the player will make the next shot that she attempts.

6. A baseball player attempted to steal a base 70 times and was successful 47 times. Find the experimental probability that the player will be successful on his next attempt to steal a base.

For Exercises 7–8, define a simulation by telling how you represent correct answers, incorrect answers, and the quiz. Use your simulation to find each experimental probability.

7. If you guess the answers at random, what is the probability of getting at least three correct answers on a four-question true-false quiz?

8. A five-question multiple-choice quiz has four choices for each answer. If you guess the answers at random, what is the probability of getting at least four correct answers?

9. A circular pool of radius 12 ft is enclosed within a rectangular yard measuring 50 ft by 100 ft. If a ball from an adjacent golf course lands at a random point within the yard, what is the probability that the ball lands in the pool?

10. Five people each flip a coin. What is the theoretical probability that all five will get heads?