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.

Practice 9-7

Probability of Multiple Events

Integers from 1 to 100 are randomly selected. State whether the events are mutually exclusive.

1. Even integers and multiples of 3
2. Integers less than 40 and integers greater than 50
3. Odd integers and multiples of 4
4. Integers less than 50 and integers greater than 40

Classify each pair of events as *dependent* or *independent*.

5. A member of the junior class and a second member of the same class are randomly selected.
6. A member of the junior class and a member of another class are randomly chosen.
7. An odd-numbered problem is assigned for homework, and an even-numbered problem is picked for a test.
8. The sum and the product of two rolls of a number cube