Sample Assessment

1. A fair coin was flipped three times and landed heads three times. What is the probability of a head on the next toss? _____

2. A bag contains five red candies, six white candies, and seven blue candies. Suppose one piece of candy is drawn at random. Find the probability for each of the following:

   (a) A white candy is drawn. _____

   (b) A red or blue candy is drawn. _____

   (c) Neither a white nor a blue candy is drawn. _____

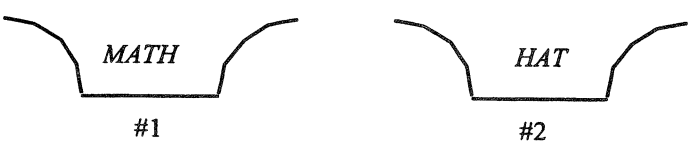
3. A box contains three blue cards and three white cards. If two cards are drawn one at a time, find the probability that both cards are blue if the draws are made as follows:

   (a) With replacement _____

   (b) Without replacement _____

4. In a NASA rocket firing, the probability of the success of the first stage is 95%, of the second stage 97%, and of the third stage 98%. What is the probability for success for the three-stage rocket? _____

5. (a) If a letter is drawn from container 1, shown below, and placed in container 2, and then a letter is drawn from container 2, what is the probability that the letter is a *T*? _____



   (b) If a container above is selected at random, and then a letter is selected at random from the chosen container, what is the probability that the letter is a *T*? _____

6. If two dice are rolled 360 times, approximately how many times should you expect the sums of 2, 3, or 12? _____

7. A teacher has prepared a 5-item test with the first three items being true or false and the last two items being multiple choice with four choices each. What is the probability that a student will score 100 percent if every answer is chosen at random? _____

8. A committee of three is selected at random from a set consisting of five Democrats, eight Republicans, and two Independents.

   (a) What is the probability that the committee consists of all Democrats?_____

   (b) What is the probability that the committee consists of no Republicans? _____

9. There were seven nominees for president and four nominees for vice president. In how many ways can the slate be chosen? _____

10. Compute $\frac{100!}{99!}$. _____

11. How many different two-person committees can be formed from a group of six people?

    _____

12. If automobile license plates consist of two letters followed by four digits, how many different possible license plates are possible if letters and numbers can be repeated?

    _____