Homework 3

due Wednesday, April 23

1. In a ten-question true-false exam, find the probability that a student gets a score of 70% or better by guessing.

2. What is the number of ways that one can put 10 different objects into two boxes with 2 objects in the first box? What is the number of ways that one can put 10 different objects into three boxes with 2 objects in the first box and 3 objects in the second box?

3. A lady wishes to color her fingernails on one hand using at most two of the colors red, yellow, and blue. How many ways can she do this?

4. A deck of ordinary cards is shuffled and 13 cards are dealt. What is the probability that the last card dealt is an ace?

5. (Bonus) A stick of unit length is broken into three pieces. The break points are assumed to be chosen simultaneously and at random. Find the probability that the three pieces can be used to form a triangle.