Homework 3
Due Thursday, July 9th at the beginning of class

1. Suppose you are randomly dealt 7 cards from a standard 52 card deck without replacement.
   (a) Give a sample space and probability measure.
   (b) What is the probability of getting 4 of one value and 3 of another?
   (c) What is the probability at least 5 of them have the same suit?
   (d) What is the probability at least 3 cards have the same value?
   (e) What is the probability of getting 3 distinct pairs, while not getting 3-of-a-kinds (i.e., can’t get 3 of the same value)?

2. Suppose you roll a 4-sided die once, and then flip a coin 4 times that is heads with probability $k/5$ where $k$ is the roll of the die. Given that you get 3 heads, what is the probability you rolled a 3?