Discrete Mathematics 21-228: Spring 2002
Homework.
HW3 due Wednesday 2/6/02

Q1: n distinguishable balls are independently randomly numbered with 1,2 or 3, each number being equally likely. What is the probability that there are exactly as many balls numbered with 1 as there are balls numbered with 2?

Q2: If $6n$ dice are independently rolled, what is the probability that there are n 1's and n 2's and ... n 6's?

Q3: A woman starts at (0,0) of an $n \times n$ grid i.e. the top right hand corner is (n, n). She takes a monotone walk to (n, n) but when she has a choice of 2 moves, she always chooses randomly. What is the probability that she hits the top row of the grid before (n, n) and why?