Department of Computer Science and Engineering
University of California at San Diego

CSE 21
Spring 97

Sample Quiz 3

1. Suppose you toss five fair dice at the same time. What is the probability p that
   (a) you roll a 5-of-a-kind (e.g. 44444, called a yahtzee)?
   (b) your roll contains 3 alike *and* 2 alike that do not match the 3 alike (e.g. 51551, called a full-house)?
2. There are 20 men and 10 women at a Super Bowl Party. $\frac{2}{5}$ of the women and $\frac{1}{5}$ of the men are not football fans. Half of the remaining women and half of the remaining men are Patriots fans. Find the probability p that
   (a) a person chosen at random is NOT a football fan.
   (b) a person chosen at random is a woman OR is a Patriots fan.
   (c) when 4 people are chosen at random, exactly 2 are Patriots fans.
3. A coin of diameter $\frac{2}{3}$ -inch is tossed onto an infinite checkerboard with 1-inch squares. What is the probability p that
   (a) the coin lies completely within one square?
   (b) the coin lies only on two squares?
   (c) the coin lies on four squares?
   (d) the coin lies only on three squares?