

10/24/2000
Dr. Lunsford

MA430 Theory of Prob/Stats I
Quiz 4

Name: _____
(20 Points Total)

I. A fair die is rolled four times and the outcome of each roll is recorded. Let X be the number of sixes in the four rolls.

(a) What is the probability that two sixes appear in the four rolls, i.e. what is $P(X = 2)$? (4 points)

(b) What is the probability that a six appears at least once in the four rolls? (4 points)

II. An urn contains three red chips and 5 white chips. Four chips are drawn (without replacement) from the urn.

(a) What is the probability that two of the four chips drawn are red? (4 points)

(b) Now suppose the four chips are drawn with replacement. What is the probability that two of the four chips drawn are red? (4 points)

III. Six fair dice are rolled at one time. What is the probability that all six faces on the dice will be different? (HINT: Count the number of possible outcomes in the sample space and the number of possible outcomes that form the event that all six faces are different) (4 points)