

Name	
PID #	

STAT/MATH 416 002 Fall 2009

Practice Quiz #1
September 9, 2009

You are not allowed to use books or notes. Non-programmable calculators approved for 1/P exam are permitted. Please read the directions carefully. The quiz is graded out of 50 points. You have 20 minutes to complete it. Please show all your work.

1. A florist has a half dozen (6) of white and a half dozen of red roses. These flowers are used to assemble bouquets.

(a) (5pts) How many possible bouquets have exactly 5 roses?

(b) (5pts) How many possible bouquets contain exactly 3 red roses and 2 white roses?

(c) (5pts) How many bouquets of 5 roses contain at least one red rose?

2. (10pts) An urn contains 3 red balls and 6 blue balls. A second urn contains 5 red balls and an unknown number of blue balls. A single ball is drawn from each urn. The probability that both balls are of the same color is $\frac{19}{36}$. Calculate the number of blue balls in the second urn.

3. (15pts) A total of 35 students are taking probability course. 20 are majoring in mathematics, 15 in statistics, 10 in finance, 7 majoring in mathematics and statistics, 5 majoring in mathematics and finance, 4 majoring in statistics and finance, and 1 majoring in all three. What is the number of people *not* majoring in either mathematics, statistics, or finance?

4. (10pts) Let X be a random variable denoting the number of aces in a randomly drawn 5-card poker hand. What is the probability mass function for X ?