Howard University Math Department

Instructions:

PLEASE PROVIDE STEP BY STEP EXPLANATIONS

WRITING ONLY ANSWERS WILL NOT GET FULL CREDIT

Time Limit 30 minutes

Please read the questions carefully before answering

1. (10 points) Two dice are thrown, each could be 1 to 6. What is the probability that at least one of the numbers is smaller than 6? You must use this formula : $P(A) = 1 - P(NOT\ A)$. In other words, probability of an event is 1 minus the probability of its opposite.

2. (Extra credit 5 points) If $P(A) = 1/2$ and $P(B) = 1/3$ and $P(A\ and\ B) = 1/6$ What is $P(A\ or\ B)$?

3. (10 points) There are 10 questions in an exam. Each has only two answers : true or false. What is the probability that a student guesses the right answer for all the questions?

4. (10 points) 5 players are chosen from a group of 10. What is the number of ways to do this, if order does matter? What is the number of ways to do this if order doesn't matter?