

Math 540/640: Statistical Theory I

HW #2

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[For the probability calculations you can write down the expression without actually computing its numerical value.]

Problem 1: If 2 balls are randomly selected from a blackbox containing 20 red and 15 green balls, what is the probability that the chosen balls are of the same color?

Problem 2: How many ways to arrange the letters “s,s,s,t,t,t,i,i,a,c”? If the arrangement is random, what is the probability that they spell the word “statistics”?

Problem 3: Suppose that 9 red flags, 5 yellow flags, 8 blue flags and 12 black flags are to be hang in a row. How many different arrangements of the colors can be formed?

Problem 4: Roll a die 36 times. Compute the probability of obtaining exactly 6 “6”.

Problem 5: Suppose you are asked to answer 9 out of 12 questions in an exam and you must answer at least three of the first four questions. In how many ways can you choose 9 questions to answer?