

DISCRETE MATHEMATICS

HOMEWORK 1

Please write clearly; illegible work will not get any credit. Also, briefly explain what you are thinking.

- (1) Serial numbers on 5-dollar bills consist of two letters, eight digits, and another letter. How many different such numbers are there?
- (2) In how many ways can you put 6 horses into 10 stalls (at most one horse per stall) ?
- (3) How many 11-letter words can you form out of the eleven letters of the word CHUMBAWUMBA ?
- (4) Assume you throw a coin nine times. In how many ways can you get three heads and six tails?
- (5) Determine the number of integral solutions of the equation $x_1 + x_2 + x_3 = 40$, where $x_1 \geq -2$ and $x_2, x_3 \geq 0$.