

EE 193 - Applied Probability and Statistics for Engineers
Department of Electrical and Computer Engineering
Tufts University Fall 2007

Problem Set #1 Distributed September 20, 2007
Due Sept. 27, 2007

Problem 1

Return now to the problem of the (possibly) drunken Dr. Mash.

- (a) Write a Matlab program to simulate an N -step walk. Your program should take as input N , the number of steps he takes and produce as output an $N \times 2$ matrix holding the x and y locations of Mash along his route.
- (b) For $N = 10$, run your simulation some large number of times. Record the y position of Mash at the end of each simulation. These positions should be between -10 and $+10$. Compute the fraction of time that Mash ends up at each of the 21 possible y locations. Plot these estimated probabilities. For say $y = 9$, are the simulation results consistent with what you computed last week? How many runs do you need to get a stable estimate of this probability?

Problem 2

Yates and Goodman problems

- 1.6.3
- 1.6.7(a)
- 1.7.3
- 1.7.8
- 1.8.3
- 1.9.4