

Math 477 “QUIZ” for Lecture 18

NAME: (print!) _____

E-MAIL ADDRESS: (print!) _____

1. You go to a strange casino where you have a chance of 0.01 to win 100 dollar, a chance of 0.02 to win 50 dollars, and 0.97 chance to lose a dollar. You do it for n days, and each time is independent of the other times. If X is the random variable denoting your total gain, what is the probability generating function? What is $E[X]$? What is $Var(X)$?

2. If you enter a casino with 100 dollars, and wish to make 200 dollars, and the probability, at each round, of winning a dollar is 0.5 and losing a dollar is 0.5, what is the probability of exiting a loser? How long would you expect to stay in the casino?