

Math 20 Homework # 6

Due May 8, 2013 (Note unusual day of the week)

Do the following problems from the book: 9.1.4, 9.1.8, 9.1.10, 9.1.16, 9.2.5, 9.2.6, 9.2.11, 9.2.15.

Also, solve the following problems:

1. Use the central limit theorem to estimate the probability that, when we roll a die 100 times, the product of the rolls is at least 3^{100} .
2. Let n be a very large positive integer, and consider a random lattice path from $(0, 0)$ to (n, n) with steps one unit up and one unit to the right. When we zoom out a lot so that we can no longer see individual steps (or even individual thousands of steps), what does the path look like? Why? (You don't have to be extremely rigorous on this problem.)