

## Math 121 - Midterm 2 Suggested Study Problems

Here are problems that are similar to the ones you might see on the exam. Be sure to also review old homework and quiz questions too. The exam will have both multiple choice and short answer questions.

**Basic Probability** Cht. 10# 10.21, 10.23, 10.25, 10.27, 10.29

**Sampling Distributions** Cht. 11# 11.15, 11.17, 11.19, 11.21

*Know the difference between the Law of Large Numbers and the Central Limit Theorem. The first is about averages, the second is about having a normal distribution.*

**Probability Rules** Cht. 12# 12.17, 12.19, 12.21, 12.23, 12.25

**Binomial Distribution** Cht. 13# 13.13, 13.15, 13.19, 13.21

*We did not cover the formulas for finding binomial probabilities in the book, so you don't need to worry about those. You should be able to read a cumulative distribution function (CDF) table for the binomial distribution, however. For example, if you play five games of roulette and bet on 7 every time, here is the CDF:*

| # Wins | 0      | 1      | 2      | 3      | 4      | 5      |
|--------|--------|--------|--------|--------|--------|--------|
| CDF    | 0.8752 | 0.9934 | 0.9998 | 1.0000 | 1.0000 | 1.0000 |

*What is the probability that you win two or more of the five games? (You should get 0.66%)*

**Terminology** The end of each chapter has a one page chapter summary. Make sure you read this, and are familiar with all of the terms that are mentioned in bold-face.