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. 12# 12.23, 12.25, 12.27, 12.31
  Concepts to review: (i) Sample space.

Sampling Distributions Cht. 15# 15.17, 15.19, 15.21, 15.23
  Concepts to review: (i) Expected value, (ii) Law of large numbers, (iii) Central limit theorem, (iv) Sampling distribution of $\bar{x}$ (shape, center, and spread).

Probability Rules Cht. 13# 13.17, 13.19, 13.21, 13.23, 13.25
  Concepts to review: (i) Venn diagrams & tree diagrams, (ii) Conditional probability.

Confidence Intervals Cht. 16# 16.11, 16.13, 16.15, 16.17
  Concepts to review: (i) Margin of error, (ii) Meaning of a confidence interval.

Hypothesis Testing 17.23, 17.25, 17.27, 17.29; 18.19, 18.21, 18.23
  Concepts to review: (i) The definition of a p-value (**memorize this**): A p-value is the probability of getting a result at least as extreme as what we got, if the null hypothesis is true. (ii) Logic of hypothesis testing (Extreme results = low p-values = reject H_0 = statistically significant = our results probably aren't just a random fluke).

t-Distribution 20.17, 20.19, 20.21, 20.23
  Concepts to review: (i) Degrees of freedom and how to use t-distribution table.

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.