Math 215 Midterm 3 Review

1 Topics, grouped according to similarity

- Conditional probability
  - Finding conditional probabilities
  - Product rule
  - Independence of events
  - Bayes' theorem
  - Using tree diagrams

- Graphical depiction of data
  - Mean, median, mode
  - Box plot
  - Interquartile range

- Random variables
  - What they are
  - Probability distributions
  - Histograms
  - Expected value
  - Variance
  - Standard Deviation
  - Binomial random variables
  - Poisson random variables
  - Normal random variables

2 Topics, arranged by priority

1. Product rule and tree diagrams
2. Finding conditional probabilities
3. Independence of events
4. Bayes' theorem
5. Probability distributions/histograms
6. Expected value
3 Predictable problems

Though there are many kinds of problems that can be on the exam, you can depend on certain kinds of problems to be excellent candidates for exam questions:

1. Calculating a conditional probability
2. Determining if it is reasonable to assume two events are independent
3. Using the definition of independence
4. Using tree diagrams or Venn diagrams to calculate probabilities, given other probabilities or other conditional probabilities or independence
5. A question involving the use of Bayes’ theorem;
6. Determining whether a distribution is binomial, Poisson, normal, or none of these.
7. Calculating the expected value, variance or standard deviation of a probability distribution or data
8. Recognizing the binomial, normal, and Poisson distributions
9. Finding relevant probabilities, expected values, variance, or standard deviation for a binomial, normal, or Poisson distribution
10. Drawing a box plot, finding medians, 1st and 3rd quartiles