**Test 2 Review Sheet – Math 2620**

This is a review for Test 2 which covers Chapters 3-4 of the text and anything we have discussed in class. Once I arrive and people start the test, please remain outside the classroom until you are ready to take the test. In other words, if you need a few more minutes to study, please do this outside the classroom.

**Overview**

The test will have 25 Multiple Choice questions. You will need your calculator. A formula sheet is provided (shown below).

**Review**

1. Chapter 3
2. Know how to use the frequency approach to estimating probabilities.
3. Venn diagrams - know: (a) math notation and how they correspond to the English words describing them, (b) regions in the diagram and how they correspond to the English words describing them, (c) and how to work problems.
4. Know: (a) the definition of mutually exclusive, (b) and how it can affect calculations.
5. Know how to find conditional probabilities with a Venn diagram type problem.
6. **(Omit Summer 2015)** Know: (a) the definition of independence, (b) and how to recognize it in a problem, (c) computing probability with independent events.
7. Two-way tables - know: (a) how to set up, (b) meaning of entries, (c) solve problems including conditional probability and **(Omit Summer 2015)** independence.
8. Chapter 4
9. Discrete Random variables - Know: (a) the meaning of f(x), (b) its forms and properties, (c) how to calculate probabilities.
10. Expected Value and Variance - Know: (a) the meaning of each, (b) how to calculate, (c) how to interpret, (d) criteria for investment/gambling problems
11. Binomial Distribution – Know how to calculate probabilities using TI-83.

**Formula Sheet**

You will be provided a formula sheet exactly as shown below:

* $P\left(A∪B\right)=P\left(A\right)+P\left(B\right)-P(A∩B)$
* $P\left(B\right)=\frac{P(A∩B}{P(B)}$
* $μ=E\left[X\right]=\sum\_{all x}^{}xf(x)$
* $σ^{2}=V\left[X\right]=E\left[X^{2}\right]-μ^{2}, E\left[X^{2}\right]=\sum\_{all x}^{}x^{2}f\left(x\right)$