Calculus 221, Chapter 9.1-9.5 Summary ~ things you should know

Important concepts:

integration via anti-derivative (Memorize the process and formula.)

integration by substitution (Memorize the process and formula.)

integration by parts (Memorize the process and formula.)

evaluating definite integrals

change of limits rule

midpoint rule, trapezoidal rule, Simpson's rule (There are two versions of Simpson's Rule in the text. You only need to know the simpler one, i.e. the one based on Midpoint and Trapezoidal Rules.)

applications: present value of a continuous income stream & density functions (For Test 1, these will be provided to you.)

Be able to:

identify the correct process needed to evaluate an integral evaluate an indefinite integral via anti-derivative, substitution or parts evaluate a definite integral using the given limits/boundaries of integration use the change of limits rule to determine new boundaries of integration in terms of *u* use the midpoint rule, trapezoidal rule and Simpson's rule to approximate a definite integral use a given formula to set up and evaluate the integral needed to answer a question

Review exercises from the text:

Chapter 9 Review of Fundamental Concepts, 1 – 7 & 9

Chapter 9 Supplementary Exercises, 1 - 46 & 56 - 58 (answers to odd-numbered problems are in the back)