**Chapter 5 Quiz Material**

**New Concepts:**Integrating and Differentiating functions involving lnx and ex

**Rules for Derivatives:**Power Rule, Product Rule, Quotient Rule, Chain Rule

**Integration Techniques:**

* u-substitution (may require some trial and error to identify a good choice of *u*)
* rewriting the integrand
  + algebra (fractions/exponents)
  + long division
  + trig identities
  + using properties of logarithms
  + properties of integrals
* Power Rule for Integration
* Log Rule for Integration
* Exponential Rule for Integration
* Facts to memorize or look up on a table (integrals of trig functions)

**Application Problems:**Derivatives: tangent line, local max/min, concavity, implicit differentiation  
Integrals: area of a region, average value of a function, solving differential equations

**For Group Quiz:**Open notes. (May take additional notes tonight in preparation for quiz.)  
May refer to homework and old assessments.  
Closed book.  
No copies of textbook or printouts of solutions to review sheet allowed.  
I will not provide any integrals for reference.