

Topics on Exam 1

The exam covers Varberg *Calculus 8th ed.* sections [5.6]-[5.8], [7.1]-[7.7].

- (1) Know and use the First and Second Fundamental Theorems of calculus. [5.6]-[5.7].
- (2) Integration by the techniques of section [5.8].
- (3) Understand the chain of results [7.1]-[7.4] that followed from the definition of the natural logarithm. You should be able to show how each result (link in the chain) followed from previous results.
- (4) Use the technique of logarithmic differentiation.
- (5) Apply ideas of [7.1]-[7.4] to practical problems like those in [7.5].
- (6) Solve first order linear differential equations as in [7.6].
- (7) Know and use theorems A and B of section [7.7].
- (8) Prove any of the parts of theorems A and B of section [7.7].