

Math 118 – Week 10
Fall Term 2003
BUCKMIRE

Monday October 27 *Class 23:*

We will look at error control and analyze how error formulas for our numerical integration methods (from Riemann sums in general to Midpoint and Trapezoid methods, as well as Simpson's Rule) vary with N and depend on the derivatives of f .

Reading:

Smith & Minton, Section 4.7

Homework #15 (4 points):

Smith & Minton, page 396: 23, 32, 27

Due: Class 24

Wednesday October 29 *Class 24:*

We will review periodic functions and trigonometric functions to prepare for further study of IVPs.

Reading:

Smith & Minton, p. 40-50

Homework

NOTE QUIZ #8: Due Friday October 31

Due: Class 25

Thursday October 16 Lab #7: Trigonometric functions

This lab will guide you through a method for combining sine and cosine functions.

LAB 5: Simpson's Rule DUE

LAB 6: Techniques of Anti-Differentiation DUE

Friday October 31 *Class 25:*

We will consider an IVP for the periodic motion of a spring. This is referred to as the linear oscillator model.

Homework:

Complete the handout: **Solutions to the Linear Spring Problem** $x'' = -b^2x$.

Due: Class 26