

Math 118 – Week 8
Fall Term 2003
BUCKMIRE

Monday October 13 *Class 17:*

We will review the results of the first exam and evaluate the first half of the semester. Introduction to accumulation.

Reading:

Smith & Minton, p. 334-353

Homework #11 (4 points):

- (a) Recall power is rate at which energy is consumed per time. Sketch the function for the power $p(t)$ (in kilowatts) **and** $E(T)$ (in kilowatt-hours) consumed over time t (in hours) by a VCR

$$p(T) = \begin{cases} 0 & T < 0 \\ 1000 & 0 \leq T < 2 \\ 1500 & 3 \leq T < 5 \\ 500 & 5 \leq T < 14 \end{cases}$$

- (b) What is the total amount of energy (in kilowatt-hours) consumed in the 14 hours by the device?
(c) What is the average power demand of the VCR?

Due: Class 18

Wednesday October 15 *Class 18:*

We will continue thinking about accumulation and the formal definition of the integral as a limit of Riemann Sums.

Reading:

Smith & Minton, p. 334-341

Homework #12 (5 points):

Smith & Minton, page 340-341 #7, #8, #12, #28, #42

Due: Class 19

Thursday October 16 Lab #5: Simpson's Rule

We will consider and explore several numerical techniques of evaluation of the area under a curve.

Lab #3 and Lab #4 DUE TODAY

Friday October 17 *Class 19:*

We will analyze multiple numerical techniques for Riemann summations which over- and underestimate the area under the bell curve. What determines the sign of the error depending on which technique we use?

Reading:

Smith & Minton, p. 384-400

Homework:

Quiz #6: Numerical Integration

Due: Class 20