Homework #7   Name: _____

Math 131 Section: _____   Row: _____

This assignment is due by 11 am on March 30, 2007 You can turn it in to me in class or drop it by the office, **Blocker 640D**. Be sure that you <u>follow the homework rules</u>, they can be found on your syllabus. Please work the problems in the order that they are listed.

1. Roger is running a marathon. His speed is recorded every 15 minutes.

time since start(hours)	0	0.25	0.5	0.75	1
speed(mph)	18	16	14	12	8

   Assume that Roger's speed is never increasing.

   (a) Compute a right sum that estimates the distance that Roger ran. Is this a lower estimate or an upper estimate or can this not be determined.

   (b) Compute a left sum that estimates the distance the Roger ran. Is this a lower estimate or an upper estimate or can this not be determined.

2. Work problem 6 in section 5.1 using 3 rectangles and the right sum method. Is the estimation a lower estimate, upper estimate or can this not be derermined.

3. Work number 6 in section 5.2 by counting the number of rectangles to make the estimate.

   (a) Each rectangle has an area of _____

   (b) Give the number of rectangles that you use in the estimation.

   (c) Give your estimation for this problem.

4. Estimate $\int\limits_{1}^{7} x^2 dx$ using 3 rectangles and a right sum.

5. Evaluate the following with a calculator.

   (a) $\int\limits_{1}^{7} x^2 dx =$

   (b) $\int\limits_{1.1}^{1.8} e^x * \ln(x) dx =$

6. Work problem 16 from section 5.3