MA 262 **ASSIGNMENT II Due: Thursday March 20, 2008**

DIRECTIONS

1. In accordance with syllabus policy (section on Academic Integrity) in order to receive credit for this assignment you must adhere to the instructions set forth in this assignment, as explained in these directions. Please attach this page to the assignment, as a cover sheet, signed and dated. If you emailed the assignment to me, you must still hand in this signed and dated document, in order to receive credit.
2. You may consult with the instructor, the notes you took in class, and any text or URL. You may also consult with your fellow classmates, if you choose, ***but*** the solutions to the problems must be written up by your own hand individually. (In other words, 'consulting' here doesn't mean copying what your fellow classmate does without understanding what you're copying.) You may not, however, consult with any other faculty member at Capitol College or elsewhere. If you for whatever reason you consulted any references, you should cite. Please adopt the following format when citing:

   (Example)

   "According to Eqn 1 [*Jones* (1992), 11] …"

   …where the complete reference of *Jones* is found in your list of references, stapled at the end of the assignment. The page number follows the date (in parentheses). Though standards in technical writing vary, I would prefer you list a citation in the following format:

Example for a book:

Jones, Robert. *Elementary Linear Algebra*. (Boston: Harcourt Press, 1992)

Example for an article:

Jones, Robert. "Boundary Value Equations: An Overview". *American Mathematical Monthly*, vol. 3 n2 (1998), 1227-1135.

Example for an electronic source, (website, pdf or other):

Jones, Robert.(2003 – use date it was last updated if it is a webpage) "Some Properties of Orthogonal Functions" URL = <http://www.jrworld.org/~jroberts/... >

Please use discretion when citing. If you stumble across a formula in some source, which I have asked you to explicitly derive, you obviously cannot cite it. This is taken care of by the fact that you must show all your work in maximal reasonable detail. An answer with no work shown gets a 0.

I have read, understood, and have complied with the instructions set forth in this assignment

_____

(Signature) (date)

Directions: Please complete the following problems listed below. Write each problem in legible and neat form. Illegible work will not be graded, and marked with a 0 grade.

I.) **(25 Pts total)**

a.) **(1)** Exercise 24, p. 570

b.) **(2)** Exercise 36, p. 570

c.) **(4)** Show that $\lim_{n\to\infty} a_n = \frac{1}{2}$, where: $a_n = \sqrt{n^2+n} - n$

d.) **(8)** Determine if the sequence $a_n = \int_{-1+1/n}^{1-1/n} \frac{dx}{\sqrt{1-x^2}}$ converges, and if so, find its limit

e.) **(10)** Exercise 71(c): (**5pts**),(d) (**5pts**), p. 571

II.) **(25 Pts total)**

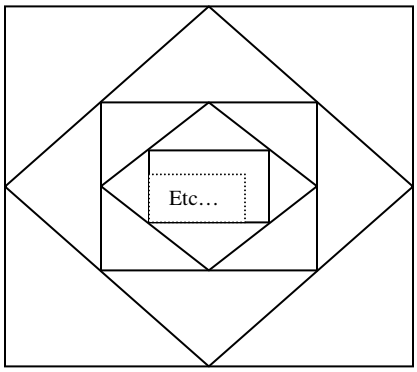
a.) **(2)** Exercise 34, p.579

b.) **(2)** Exercise 38, p. 579

c.) **(2)** Exercise 42, p. 579

d.) **(3)** Exercise 56, p. 579

e.) **(5)** Start with a square whose sides are four units. Join the midpoints of the square to form a second square inscribed in the first. Repeat procedure for the second square, and so on (see figure)



Find the total area of the infinite sum of the inscribed square.

f.) **(3)** Exercise 26, p. 585

g.) **(3)** Exercise 32, p. 526

h.) **(2)** Exercise 10, p. 591

i.) **(3)** Exercise 22, p. 591

III.) **(25 Pts total)**

a.) **(5)** Exercise 35, p. 591

b.) **(3)** Exercise 42, p. 591

c.) **(2)** Exercise 26, p. 598
d.) **(3)** Exercise 48, p. 598
e.) **(7)** Exercise 52, p. 599
f.) **(2)** Exercise 10, p. 604
g.) **(3)** Exercise 26, p. 605

IV.) **(25 Pts total)**
a.) **(3)** Exercise 12, p. 615
b.) **(5)** Exercise 16, p. 615
c.) **(2)** Exercise 16, p. 623
d.) **(5)** Exercise 36, p. 624
e.) **(5)** Exercise 14, p. 630
f.) **(5)** Exercise 20, p. 630