Department of Mathematical Sciences   Spring 2002
Carnegie Mellon University

21-256 Multivariate Analysis and Approximation

Announcement of Test #1

Test #1 will be administered in lecture on Friday, February 8, 2002.
This is a closed-book and closed-note exam. Calculators are not
permitted.

There will be a review session on Wednesday evening February 6,
2001. The location and time for the review session will be announced
in lecture and posted on the course website:

   http://www.andrew.cmu.edu/course/21-256/home.html

Test #1 will cover
    Compound Interest Handout Sections 10.1, 10.2, 10.3, and 10.4;
    Stewart Sections 11.9 and 11.10.
You are not responsible for material regarding the determination of
the radius of convergence for a power series.

The following propositions will be provided with the exam:

Proposition: If P dollars earns interest at a rate of i percent com-
pounded m times per year, then after n years it will grow to

$$A_n = P\left(1 + \frac{i}{m}\right)^{mn}$$

dollars.

Proposition: If P dollars ears interest at a rate of i percent com-
pounded continuously, then after n years it will grow to

$$A_n = Pe^{in}$$

dollars.

Proposition: If R dollars is deposited at the end of each year into an account paying i percent compounded annually, then after n years the total amount accumulated is

$$V_n = R \left(\frac{(1+i)^n - 1}{i} \right)$$

dollars.

Proposition: If S dollars earns interest at a rate of i percent compounded annually, then

$$R = \left(\frac{i}{1 - (1+i)^{-n}} \right) S$$

dollars may be withdrawn at the end of each year for n years.

Proposition: The monthly payment on a loan of P dollars for n years at an interest rate of i percent compounded monthly is

$$R = \frac{\frac{1}{12}P}{1 - \left(1 + \frac{i}{12}\right)^{-12n}}.$$