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 compounded $m$ 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 earns interest at a rate of $i$ percent compounded 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dollars may be withdrawn at the end of each year for $n$ years.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

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