Schedule:

- Bring practice exam today.
- Exam 3 is Today, Nov 14th, 5:00pm-7:00pm in CB106.

Today we will review chapter 5.
Exam 3 breakdown

- **Chapter 5, Interest and the Time Value of Money**
  - Simple interest
  - Compound interest
  - Sinking funds
  - Amortized loans

- **Chapter 6, Counting**
  - Inclusion exclusion
  - Inclusion exclusion
  - Multiplication principle
  - Permutations
Mr. Marjoram is temporarily short on money, but will have plenty in a week or two. His $80 electrical bill is due too soon, and he contemplates four options:

(A) Pay it late, including a $4 late fee

(B) Put it on his 24% APR credit card for one month (incurring 2% simple interest)

(C) Get a loan from the pawn shop for 1% monthly interest and a $5 processing fee

(D) Get a loan from Chek-N-Go at 432% APR for two weeks (incurring 16.80% simple interest)

How much interest does each option incur? Which is the cheapest option?
Mrs. Oregano just received notification that her interest rate is changing from 12% APR to 24% APR, effective in three months. She expects to incur interest for the next six months. Assuming no further changes, how much interest will $250.00 incur over the next six months: that is three months at 12% APR and three months at 24% APR, all compounded monthly.

The interest after six months is _______ dollars.

Mrs. Oregano has a limited time offer to transfer the present $250.00 to an 18% APR account. How much interest would the $250.00 incur after six months at 18% APR, compounded monthly?

The interest would be _______ dollars.
Zach Crusoe is saving for the future. He has deposited $0.10 per day into his 3.60% APR savings account (compounded daily, 360 days per year) for two years. How much is his account currently worth?
(a) His account is worth ______dollars.

As he has gotten older, his responsibilities and allowance have increased. How much will his account be worth if he now deposits $0.25 per day for the next year?
(b) His account is worth ______dollars after 3 years: 2 years of $0.10 per day, and 1 year of $0.25 per day
Amortized loans

- Dr. Tarragon is buying his potatoes on credit and plans to purchase $1000.00 worth of Yukon Golds at 18% APR compounded monthly. He needs to have them paid off by the end of the year, 9 months from now. How much is his monthly payment?

- A monthly payment of ______dollars will pay off the loan in 9 months.

- A monthly payment of ______dollars will pay off the loan in 18 months.

- How long to pay it off at $15 per month? After one month, the debt is ______dollars, so after the payment the remaining debt is ______dollars.

- What is the remaining debt after 6 years?