

MA162: Finite mathematics

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SCHEDULE:

- Exam 3 is Monday, November 12th, 5pm to 7pm in BS107 and BS116
- HW 7A is due Friday, November 23rd, 2012
- HW 7B is due Friday, November 30th, 2012
- HW 7C is due Friday, December 7th, 2012

Today we will cover the practice exam

Practice exam #1: Easy time value of money

- How much is \$1000 worth after 2 years of 18% APR (1.5% per month) interest compounded monthly?
- How much do you need to deposit now to have \$1000 after 2 years of 1% APR interest, compounded monthly?
- How much is five years of \$100 monthly payments worth with 12% APR (1% per month) interest?
- How much do you need to deposit each month in order to have \$1000 after 2 years of 1% APR interest, compounded monthly?
- How much can you borrow now if you are willing to pay back \$100 per month at 6% APR (0.5% per month) interest, compounded monthly, for seven years?
- How much does one need to pay each month in order to pay off a \$10,000 loan over 5 years at 6% APR (0.5% per month) interest, compounded monthly?

Practice exam #2: Medium money

- Which is the cheaper way to pay the electric bill? The bill is \$100. One does not have the money now, but one will have the money in a month.

How much does each method cost total at the end of the month?

- Pay it late. The late fee is \$5.
- Put it on the credit card, and pay off that purchase and its interest in a month. 36% APR (3% per month).
- Pawn an iPhone for a month for \$100. The interest is 1% per month, but there is a \$3.50 processing fee.
- Get a pay-day loan at 416% APR (8% per week) and hope you have the money early.
- Which is the cheapest option?

Practice exam #3: Hard money

- Bob decides to save \$100 per month at 1% per month interest for five years. How much will he have in the account after five years?
- After a year, Bob unfortunately realizes the interest rate was really 1% APR. How much is in the account now?
- If he actually wants the amount in part (a) to be there in time (so four more years), how much does he need to start investing per month now?
- So at the end of the five years, he has his money. Now he wants to withdraw the money, \$100 per month. Miraculously the interest rate is still 1% APR. How much money is left after five years of withdrawals?
- Carl deposits \$100 per month for two years at 2% APR, compounded monthly. He then withdraws \$100 per month for two years at 2% APR, compounded monthly. How much money is left in his account?
- In plain English, why does Carl still have money left in his account?

Practice exam #4: Easy counting

- 40% of those surveyed identified themselves as fiscally conservative. 35% identified themselves as socially conservative. 35% identified themselves as neither. What percentage of those surveyed would identify themselves as fiscally conservative or socially conservative, but not both?
- What percentage identified as fiscally conservative but not socially conservative?
- How many ways can you roll four standard (6-sided) dice without getting any odd numbers on the top of a die?
- If you flip a coin 5 times, how many possible outcomes are there? (For example, HHTTT is one outcome)

Practice exam #5: Medium counting

- How many ways can the letters from ACCOUNTANCY be rearranged?
- How many ways can you arrange four letters from GLACIER?
- How many ways can you arrange all of the letters of GLACIER if you alternate consonants and vowels?
- If you have 5 red beads, 2 green beads, and 4 purple beads, how many different strings of them could you make?
- If you were making the string of a beads for a friend who cannot distinguish red from green, how many strings could you make that would look different to them?