

Calculus I, 21-111  
Homework # 11  
Due Tuesday, April 24

Complete all exercises.

Textbook exercises:

- Section 4.4 # 44, 47
- Section 4.5 # 6
- Section 4.6 # 26, 28, 32
- Section 5.1 # 4, 6, 8, 10, 16, 20, 25
- Section 5.2 # 4, 10, 20
- Section 5.4 # 2, 4

Additional exercises:

1. Suppose you deposit \$500 into a savings account every month. If the account gives 4% interest, compounded monthly, how much money will you have in the account after 30 years?
2. If your monthly mortgage payment is \$500, and your mortgage charges 4% yearly interest and will be paid off in 30 years, how much money did you borrow?
3. If you invest a lump sum of \$104,730.62 in a savings account which gives 4% yearly interest, compounded monthly, what will be the balance in the account after 30 years? Explain how you can use the results of the previous two problems to answer this question without doing any more computations.
4. Suppose you finance your car with a loan of \$12000 at a yearly interest rate of 11% for four years. How much will your monthly payment be?
5. (optional, 1 bonus point) Suppose you borrow \$10,000 at 6% interest. You make monthly payments of \$150. How many months will it take you to pay off the loan?