HOMEWORK 6 - MATH 111

DUE DATE: Monday, March 15
INSTRUCTOR: George Voutsadakis

Read each problem very carefully before starting to solve it. Each question is worth 1 point. It is necessary to show your work. Correct answers without explanations are worth 0 points.

GOOD LUCK!!

1. You borrowed \$4,000 from your grandmother when you entered college to buy a used car so as to be able to commute to school. You are going to repay her after six years with (simple) interest 3% per year. Find the total amount that you need to repay.

2. You are starting college as a freshman in business and you intend to start your own business ten years later, once you have accumulated some experience in the field. If you are going to need \$10,000 as a startup capital in ten years time, find the amount you need to deposit now in an account yielding (simple) interest 5% per year.

3. You borrow \$800 at a bank with a discount rate of 4%. Find the proceeds if the loan is for two years.

4. Your parents are putting a principal amount of \$5,000 in a bank account yielding interest 4% compounded semiannually for you to use to purchase a new car after graduation. Find the amount you will have in four year's time.

5. Find the effective interest rate corresponding to 5% compounded quarterly.

6. A developer plans ahead to buy land that will cost \$120,000 in five years. How much money does she need to deposit now in an account yielding interest 6% compounded every two months?

7. You have just gotten married and are ready to start a family. You and your spouse are planning to start an annuity so as to have \$80,000 in twenty years to be able to send your children to college. How much money do you need to deposit at the end of every month for the next twenty years at the interest rate of 3% so as to be able to have a future amount of \$80,000?

8. Your uncle that has not attended college is asking you to evaluate his final amount: He is going to be depositing \$5,000 at the beginning of each year for ten years in an account paying 5% compounded annually. He will then put the total amount on deposit for another five years in an account paying 6% compounded semiannually. What will his future amount be after the total fifteen year period?