This test is worth 200 points. There are six problems, and five multiple-choice questions. The six problems are worth 30 points each, and the five multiple-choice questions are worth 4 points each. You should clearly show all of your work and justify your answers where appropriate.

1. At age 25, Jeremy starts making a contribution of $2000 at the end of each year into a retirement account that pays 3.4% annually. He continues to do so until he is 50, and then quits making contributions.

   (a) How much will he have in the account at age 50?

   (b) If he leaves the money in the account until he is 65, how much money will be in the account?

   (c) How much of that money is interest he has earned?

2. Suppose that you obtain a car loan of \$11,275 for five years at 7.2% compounded monthly. The bank says that each of the first 59 monthly payments is \$224.32.

   (a) What is the periodic interest rate?

   (b) Using the periodic interest rate found in (a), determine the missing values for periods 1 and 2 of the partial amortization schedule provided. Using the current balance after payment 59, determine the missing values in period 60.

Period	**Current Balance at Start of Period**	**Payment Amount**	**Interest Paid**	**Principal Repaid**	**Balance After Payment**
1	\$11,275	\$224.32			
2					
...	...	...	...	...	...
59	...	...	...	...	\$223.02
60					

   (c) What will be your payoff amount just after you have made payment 37?

3. Malika has decided to start saving early for retire. Her goal is to retire in 35 years. When she retires, she hopes to have $500,000 in her retirement account. She will invest her money into an account that pays 6.96% annual interest compounded monthly.

   (a) How much will she need to invest each month to reach her investment goal?

   (b) How much interest will she earn over this 35 year period?

   (c) If she plans to withdraw $2500 per month, how long will she be able to withdraw funds this account? Round your answer to the nearest number of years.

4. Carlos just purchased a new condominium for $185,000. He will pay 25% down and finance the rest. He is offered a mortgage for 15 years at 6.3% compounded monthly, with no points.

   (a) How much will he have as a down payment on the loan?

   (b) How much will he have to finance?

   (c) What will be his monthly payment?

   (d) How much would it cost to to pay off the condo after he has owned it for exactly 7 years?

5. A used Honda Accord can be purchased for $18,500 (assume that this price includes all taxes and fees). Melanie has agreed to purchase the car with the following terms:

   - She will make a down payment of $4,500.
   - In addition to her down payment, she will apply the trade in value of her current car, which is $3,600.
   - A 60 month loan will be offered by her bank with an interest rate of 3.49% compounded monthly.

   (a) How much will she have to finance?

   (b) What will be her monthly car payment amount?

   (c) What is the total amount of interest that she will pay over the 60 month period?

6. Suppose you owe $3500 on a credit card that charges 21% interest compounded monthly. You will not make any new purchases, but you can only afford to make a $150 monthly payment on this debt.

   (a) What part of your first $150 payment at the end of the first month goes for interest, and what part goes to repay part of the debt?

   (b) How many monthly payments of $150 will it take to pay off the debt?

   (c) About how much will the last payment need to be?

   (d) How much interest will have been paid when the debt is paid off?

For the questions 7-11, fill in the circle corresponding to the best answer.

7. Richard is investing in a retirement account, and he expects to pay a higher income tax rate after he retires. Based upon this information which of the following should he choose if he wishes to maximize the return on his investment?

   ◯ Roth IRA

   ◯ Traditional IRA

   ◯ standard savings account

   ◯ amortized loan

8. When we use the equation $FA = PMT\frac{((1+i)^m - 1)}{i}$, we assume that all payments are made at _____ each payment interval.

   ◯ any time within

   ◯ the middle of

   ◯ the end of

   ◯ the beginning of

9. Determine if the following statement is true or false: "When constructing an amortization schedule, every amount in the payment amount column must always be equal."

   ◯ True

   ◯ False

10. When saving for retirement, which of the following has the greatest effect?

    ◯ periodic interest rate

    ◯ length of time

    ◯ annual interest rate

    ◯ amount that you save

11. Assuming that you make substantially equal monthly payments on an auto loan, the amount of the payment that goes toward paying off principal in the first month will be _____ the amount of the payment that goes toward paying off the principal in the last month.

    ◯ greater than

    ◯ less than

    ◯ the same as

    ◯ different, but not always greater than or always less than