Homework #1
BUSI 408 Summer II 2013

This assignment is due 28 June 2013 at the beginning of class. Answer each question with numbers rounded to two decimal places. For each question, you should right down the following five pieces of information: N, PMT, PV, FV, I/Y. To receive full credit, you will need to right down the formula used and show your work.

1. Today Justin bought a diamond engagement ring for $50,000. He expects the ring to increase in value at a rate of 12% compounded annually for the next 5 years. How much will the ring be worth at the end of the fifth year if his expectations are correct?

2. Ginger expects to receive $75,000 from a trust fund in 6 years. What is the current value of this fund if it is discounted at 9% compounded semiannually?

3. Israel borrowed $800 from his father to purchase a mountain bike. Israel paid back $1,200 to his father at the end of 5 years. What was the annual compound rate of interest on Israel's loan?

4. John purchased an oriental rug for $8,000. Today he sold the rug for $15,000. John correctly determined the average annual compound return on the rug was 12%. Approximately, how many years did John own the rug?

5. Brit wants to purchase a new farm implement in 5 years for $60,000. What periodic payment should she invest at the beginning of each quarter to attain her goal if she can earn 10.5% annual interest compounded quarterly on her investments?

6. Travis purchased a red firebird for $19,500. He financed it at 11% annual interest rate, compounded monthly for 3 years. What payment is required at the end of each month to finance his car?

7. Bobby recently purchased a house for $120,000. He put 20% down and financed the remaining amount over 15 years at 7.5%. How much interest will be paid over the life of the loan assuming he pays the loan as agreed?

8. Kim wants to save enough for her daughter's education over the next 9 years. She needs an additional $300,000 (today's dollars) to have sufficient funds. She assumes that inflation will average 5% over the long run, and she can earn 4% compounded annual after-tax return on investments. What serial payment should Kim invest, starting at the end of the first year, to obtain this objective?

9. A security will pay $5,000 at the end of the third, seventh, eighth, and ninth years. What is the present value of the following stream of payments if the required rate of return is 10%?

10. Jessica borrowed $120,000 in order to purchase a home and financed it for 30 years with monthly payments. The annual interest rate is 6%. How much is her monthly payment? What is the principal remaining on the loan after one year (12 payments)?

11. When Michael was born, his grandfather bought him a savings bond for $250 that paid 5%.

When Michael started college at age 18, he could cash in the savings bond for how much?

12. If home value are growing at 4% per year, how much will a $100,000 home be worth in 14 years?

13. Find the present value of 20 semiannual payments of $50 each at a required rate of return of 8%.

14. On Michelle's tenth birthday, her mom deposited \$100 into a savings account earning 4%. Her mother continued such \$100 deposits each year, making the last one on Michelle's 23^{rd} birthday. At that time, her mother withdrew it all for a wedding gift for Michelle. How large was the gift?

15. Is it better to pay \$400 cash for a washing machine or to pay \$20.56 per month for 2 years at 9%? Show your work.