Math 312 - Practice Problems for Quiz # 4

1. A $5000 10-year 10% bond is priced to yield 8% convertible semiannually and redeems at par.

    A) Without computing the price, explain how you can tell whether this bond is bought at a discount or at a premium.

    B) Find the price of the bond at $t = 0$ to confirm your answer to part (A).

2. A 20-year $1000 bond that redeems at 1100 pays 8% semiannual coupons and is priced to yield at 4.6% convertible semiannually. If upon receipt the coupons are immediately reinvested into a fund that pays 7% interest compounded semiannually, find the effective annual interest rate of this investment.

3. A 10-year bond pays semiannual coupons at a nominal rate of 5%. These coupons are invested at the end of every 6-month period into an account earning an effective annual rate of 7.5%. At the end of 10 years the value account is $6,123.21. Find the face value of the original bond.

4. An n-year $5,000 par bond redeems at $5,500 and pays 9% annual coupons and is priced at $6,333.78 to redeem at an annual effective rate of 6.5%. Find the price of a bond with the same maturity n and yield except that it redeems at a par value of $2,500 and pays annual coupons at a rate of 7%.

5. A 10-year $1,000 par bond with semiannual 8% coupons and redemption value $1200 is purchased for $1,855.41. Find the price of a 12-year $1,300 par bond with 6% semiannual coupons that redeems at $1075. Both bonds priced at the same semiannual yield rate.

    I) $1,722.47

    II) $1,844.89

    III) $1,855.41

    IV) $1,927.47

    V) $2,046.10