DEBT SECURITIES, SEMESTER 1, 2012 – TUTORIAL 4

CHAPTER 5: VALUATION OF DEBT SECURITIES

Problem 2)
A 5-year amortizing security with a par value of $100,000 and a coupon rate of 6.4% has an expected cash flow of $23,998.55 per year assuming no prepayments. The annual cash flow includes interest and principal payments. What is the value of this amortizing security assuming no principal prepayments and a discount rate of 7.8%?

Problem 5)
A 4-year 5.8% coupon bond is selling to yield 7%. The bond pays interest annually. One year later interest rates decrease from 7% to 6.2%.
a. What is the price of the 4-year 5.8% bond selling to yield 7%?
b. What is the price of this bond one year later assuming the yield is unchanged at 7%?
c. What is the price of this bond one year later if instead of the yield being unchanged the yield decreases to 6.2%?
d. Complete the following:

Price change attributable to moving to maturity
(no change in the discount rate)
Price change attributable to a decrease in the
discount rate from 7% to 6.2%
Total price change ________

Problem 6)
What is the value of a 5-year 5.8% annual coupon bond if the appropriate discount rate for discounting each cash flow is as follows:

Year	Discount rate
1	5.90%
2	6.40%
3	6.60%
4	6.90%
5	7.30%

Problem 8)
What is the value of a zero-coupon bond paying semiannually that matures in 20 years, has a maturity of $1 million, and is selling to yield 7.6%?

Problem 9)
Suppose that a bond is purchased between coupon periods. The days between the settlement date and the next coupon period is 115. There are 183 days in the coupon period. Suppose that the bond purchased has a coupon rate of 7.4% and there are 10 semi-annual coupon payments remaining.
a. What is the dirty price for this bond if a 5.6% discount rate is used?
b. What is the accrued interest for this bond?
c. What is the clean price?