Ma 308 ~ Theory of Interest

Homework Problems

Bonds

page 361, # 3. A 1000 par value 5-year bond with 8.0% semiannual coupons was bought to yield 7.5% convertible semiannually. Determine the amound of premium amortized in the 6th coupon payment. [5/00 #43]

page 362, # 10. Dick purchases an n-year 1,000 par value bond with 12% annual coupons at an annual effective yield of i, $i > 0$. The book value of the bond at the end of year 2 is 1479.65, and the book value at the end of year 4 is 1439.57. Calculate the purchase price of the bond. [SOA 11/92 #16]

page 362, # 12. On May 1, 1985, a bond with par value 1000 and annual coupons at 5.375% was purchased to yield an effective annual interest rate of 5%. On May 1, 2000, the bond is redeemable at 1100. The book value of the bond is adjusted each year so that it equals the redemption value on May 1, 2000. Calculate the amount of write-up or write-down in the book value in the year ending May 1, 1991. [SOA 5/90 #13]

page 363, # 20. A ten-year bond bears semiannual coupons of \$4 each and has a redemption value of \$100. The bond is purchased to yield 10% compounded semiannually. To the nearest 0.02, find the amound of increase in the book value at the time of the tenth coupon payment. [CAS 11/82 #11]

The previous problems are taken from: Harold Cherry and Rick Gorvett. *Study Manual for Exam FM/Exam 2: Financial Mathematics and Financial Economics.* Actuarial Study Materials, 7th edition, 2008.