Individual Assignment 2

Due 6:30PM, 5 Sept

1. The following table summarizes prices of various risk-free, zero-coupon bonds (expressed as a percentage of face value):

Maturity (years)	1	2	3
Price (per $100 face value)	$95.51	$91.05	$86.38

   Compute the yield to maturity for each bond.

2. Suppose a 10-year, $1000 bond with an 10% coupon rate and semiannual coupons is trading for a price of $1135.90.
   a. What is the bond's yield to maturity (expressed as an APR with semiannual compounding)?
   b. If the bond's yield to maturity changes to 10% APR, what will the bond's price be?

3. Given the information of question 1, what's the YTM of a three-year risk-free bond with 5% coupon rate and annual coupons?

4. Given the following information from the market: the six-month risk-free interest rate is 2% (for six months); the YTM of a one-year risk-free bond with 8% coupon rate (APR) and semiannual coupons is 6% (APR); the YTM of a two-year risk-free bond with 10% coupon rate and annual coupons is 5%. Calculate: the two-year risk-free interest rate (expressed as an EAR).

5. Grummon Corporation has issued zero-coupon corporate bonds with a five-year maturity. Investors believe there is a 40% chance that Grummon will default on these bonds. If Grummon does default, investors expect to receive only 20 cents per dollar they are owed. If investors require a 10% risk premium on their investment in these bonds, and the risk-free interest rate is 2%, what will be the price and yield to maturity on these bonds?