1. Assume the government issues a semi-annual pay bond that matures in 5 years with a face value of $1,000 and a coupon yield of 10 percent.

(a) What price would you be willing to pay for such a bond if the yield to maturity (semiannual compounding) on similar 5-year governments were 8%?

(b) What would be the price if the yield to maturity (semi-annual compounding) on similar governments were 12%?

(c) If the price of the bond is 103 19/32 per $100 of face value, what is the yield to maturity?

(d) Suppose you held the bond in (c) for 6 months, at which time you received a coupon payment and then sold the bond for a price of 102 (per $100 of face value). What would be the annualized holding period return?

2. For each of the bonds and reinvestment rates listed below calculate the amount of money accumulated at the end from a $1000 initial investment:

(a) Invest $1000 in a 5-year zero coupon bond with a yield to maturity of 9 percent.

(b) Buy a 5-year 9% coupon annual pay bond at par ($1000) and reinvest the annual coupons at 9% (annual compounding).

(c) Same as (b) but reinvest the annual coupons at 12%.

(d) Same as (b) but reinvest the annual coupons at 6%.

(e) For (a) through (d) calculate the annual holding period return. What can you conclude about the relationship between yield to maturity and holding period returns?

3. Suppose the yield to maturity on a one-year zero-coupon bond is 8%. The yield to maturity on a two-year zero-coupon bond is 10%. Answer the following questions (use annual compounding):

(a) According to the Expectations Hypothesis, what is the expected one-year rate in the marketplace for year 2?

(b) Consider a one-year investor who expects the yield to maturity on a one-year bond to equal 6% next year. How should this investor arrange his or her portfolio today?

(c) If all investors behave like the investor in (b), what will happen to the equilibrium term structure according to the Expectations Hypothesis?