1. Compute the price of an annual coupon paying bond that has a face value of $1,000, coupon rate of 4%, nominal yield-to-maturity of 8%, and a maturity of 20 years.

(A) $607.27

(B) $751.31

(C) $851.23

(D) $1000

Time horizon reference: 1 period = 1 year  
Number of periods: 20  
Discount rate per period: 8%  
CF: 40 each period & 1000 in the last period

P = 40/0.08\*(1-1/1.08^20) + 1000/1.08^20 = 607.27

2. Compute the price of a semi-annual coupon paying bond that has a face value of $1,000, coupon rate of 10%, nominal yield-to-maturity of 10%, and a maturity of 5 years.

(A) $607.27

(B) $751.31

(C) $851.23

(D) $1000

Time horizon reference: 1 period = 6 month   
Number of periods: 10  
Discount rate per period: 5%  
CF: 50 each period & 1000 in the last period

P = 50/0.05\*(1-1/1.05^10) + 1000/1.05^10 = 1000

3. Compute the price of a zero-coupon bond that has a face value of $1,000, nominal yield-to-maturity of 10%, and a maturity of 3 years.

(A) $607.27

(B) $751.31

(C) $851.23

(D) $1000

P = 1000/1.1^3 = 751.3148

4. Company ABC has just made a dividend payment of $5 per share now. You expect Company ABC to pay the same amount of dividend every year. If your required rate of return is 10% per year on this stock, what is your valuation of Company ABC’s stock?

This is perpetuity

P = 5/0.1 = 50

5. Company DEF has just made a dividend payment of $5 per share now. You expect that Company DEF’s dividend payment will go up by 5% every year. If your required rate of return is 10% per year on this stock, what is your valuation of Company DEF’s stock?

This is the constant growth model.

Note that your first CF is $5.25 in Year 1 (Since you did not previously own this stock, you are NOT entitled to receive $5 today)

P = D1/(r-g) = D0\*(1+g)/(r-g) = 5\*(1+0.05)/(0.1-0.05) = 5.25/0.05 = 105

Note that Company ABC and Company DEF paid out the same dividend amount today and has the same riskiness in terms of the same discount rate, but due to the growth of the dividend, the price of Company DEF’s stock is larger than twice that of Company ABC’s stock price.

6. After the liquidation of a corporation, cash generated from the sales will be distributed to its stake holders accordingly. Which of the following group has the priority of claiming the cash disbursement over the other two types of investors?

(A) Bond holders

(B) Preferred stock holders

(C) Common stock holders