1. You invest $1,000 now. You know that the FV of this sum will be $1,210 two years from now.
   a. What is the annual interest rate on your investment?
   b. How would your answer change if the $1,210 FV corresponded to four years from now?

2. Firm ABC sells a machine for $500,000 in cash or for $200,000 in cash plus $350,000 on one year’s credit. If the present values of the two possible terms of sale are the same, what is the discount rate?

3. A stock pays a dividend of $1 per share one year from today. Thereafter, the dividend grows at 3% a year forever. The discount rate is 5%.
   a. What is the PV of the dividend cash flows?
   b. How would your answer change if the dividends were uncertain and the appropriate discount rate was 8% (5% risk free plus 3% risk premium)?

4. One bank offers a savings plan with an interest rate of 10% compounded annually, a second bank offers an interest rate of 9.5% compounded monthly and the third bank offers an annual rate of 9% compounded continuously.
   a. Which bank would you prefer if your investment horizon is 1 year?
   b. Which bank would you prefer if your investment horizon is 10 years?

5. You have just borrowed $165,000 using a mortgage that calls for 30 equal annual installments. The annual interest rate on the mortgage is 7%. How much is each annual installment?

6. A bond with par value (principal) $1,000 and an annual coupon (i.e. interest payment) of 8% matures in six year (i.e. pays the principal). The cost of capital for similar bonds is 6%. What is the current price of the bond assuming the first interest payment is a year form now?

7. The XYZ Corporation pays dividends annually. Its next dividend will be paid one year from now and is expected to be $10. The dividend will grow at $g_1 = 15\%$ for two year and then at $g_2=5\%$ forever after that. What is the stock’s current price if the risk adjusted annual rate of return is 8%?

8. Suppose you have decided to start saving money to take a long-awaited work-cruise, which you want to take 5 year from today. You estimate the amount you will have to pay at that time will be $6,000. The savings account you established for your trip offers 16% per annum interest compounded quarterly.
   a. How much will you have to deposit each year (at year-end) to have your $6,000 if your first deposit is made 1 year from today and the final deposit is made on the day the cruise departs?
   b. How much will you have to deposit each year if your first deposit is made 1 year from today and the final deposit is made 1 year before the cruise departs?
   c. How much would you have to deposit each year if your first deposit is made now and the final deposit is made 1 year before the cruise departs?