1. Which of the following appears to be the most appropriate goal for corporate management?
   A. Maximizing market value of the company's shares.

2. Which of the following statement is most correct?
   d. The PV of a future sum decreases as either the nominal interest rate or the number of discounting periods per year increases.

3. Portfolio diversification reduces the variability of the returns on each security held in the portfolio.
   b. False

4. The Capital Asset Pricing Model does not hold for investors who have a preference for cash dividends.
   B. False

5. If I know for sure that the market will have a positive return over the next year, to maximize my rate of return, I should increase the beta of my portfolio.
   a. True

6. The expected return on a common stock is composed of:
   C. both dividend yield and capital appreciation.

7. Which is the best measure of risk for an asset held in isolation? Which is the best measure for an asset held in a diversified portfolio?
   d. standard deviation; beta

8. The payment made each period on an amortized loan is constant, and it consists of some interest and some principal. The later we are in the loan's life, the larger the principal portion of the payment.
   a. True

9. If a bank uses quarterly compounding for savings accounts, the nominal rate will be greater than the effective annual rate.
   b. False

11. List the reinvestment rate assumption for the following capital budgeting methods (1 point each).

12. If two projects offer the same, positive NPV, then:
   D. they add the same amount to the value of the firm.

13. (2 points each) (Circle the Bold phases that correctly complete the sentence) Two securities have a required return of 10% and a standard deviation of 24%. They have a positive correlation that is less than 1.0. We form a portfolio that is equally invested in each of the securities. From this information, we know that the required return of this portfolio is ___equal to_________ (greater than, less than, equal to) than 10% and the
standard deviation of this portfolio is _____less than____________ (greater than, less than, equal to) than 24%.

14. What is the best method of calculating a stock’s required rate of return? Why?

CAPM, it is the only equation we have that calculates required return. Other formulas calculate expected return.

15. If its yield to maturity is less than its coupon rate, a bond will sell at a __________, and increases in market interest rates will __________.
   c. premium (i.e., greater than par value), decrease this premium.

16. The __________ the time to maturity for a bond, the __________ its price change in response to a given change in interest rates.
   b. Longer; greater

17. The following table lists the capital budgeting analysis of four different, independent projects with an equal life:

<table>
<thead>
<tr>
<th>Project</th>
<th>NPV</th>
<th>IRR</th>
<th>Cost of Capital (based on project’s beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$3,000</td>
<td>10.5% and 17%</td>
<td>12%</td>
</tr>
<tr>
<td>B</td>
<td>$5,050</td>
<td>13.4%</td>
<td>12%</td>
</tr>
<tr>
<td>C</td>
<td>$4,800</td>
<td>14.4%</td>
<td>12%</td>
</tr>
<tr>
<td>D</td>
<td>$3,100</td>
<td>21.5%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Which project(s) should you choose?
   e. A, B, C, and D, since all have NPV>0

Final Exam Spring 2004 FINC 6532 Your Name _______________________
YOU HAVE 2 HOURS TO COMPLETE BOTH PARTS OF THIS THIS EXAM

Instructions:
1) The part of the exam is open book and open notes.
2) Point values are listed with the question.
3) Show your work in order to have the possibility of partial credit.

1. (3 points) What is the present value of $700 to be received in two equal installments ($350 each), two years and five years from today, when the annual discount rate is 10%?

   $506.58

2. Two years ago, Dennis Whitman bought a house that costs $125,000. His loan for $125,000 has a 8 percent nominal interest rate with monthly payments over 20 years.

   a. (3 points) Assuming that Mr. Whitman has made each payment for the first two years of the loan on time, how much money does he still owe on his loan?

   $119496.55

   b. (3 points) How much interest did Mr. Whitman pay in the first two years of his loan?
3. (3 points) In its first year of operations, the Gourmet Sandwich Shoppe (GSS) had earnings per share (EPS) of $0.42. Seven years later, EPS was $1.58. During this seven year period, what was GSS’s annual growth rate in earnings?

20.84%

4. An investment has the following probability distribution of returns.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Return</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-12%</td>
<td>.20</td>
</tr>
<tr>
<td>2</td>
<td>0%</td>
<td>.20</td>
</tr>
<tr>
<td>3</td>
<td>8%</td>
<td>.30</td>
</tr>
<tr>
<td>4</td>
<td>40%</td>
<td>.30</td>
</tr>
</tbody>
</table>

a. (4 points) What is the expected return of this investment?

12%

b. (4 points) What is the standard deviation of this investment?

19.6%

c. (4 points) Using your answer from part A; If the beta of this security is 1.2 and the required return on the market is 10.833%, what is the risk free rate?

5%

5. (4 points) A firm issued 25-year $1,000 par value bonds ten years ago at par. At that time, the market rate for such bonds was 9%. Today these bonds are selling for $1,100. Coupon is paid annually. What is the market interest for these bonds today?

7.84%

6. (4 points) Cold Boxes Ltd. has 100 bonds outstanding (maturity value = $1,000). The nominal required rate of return on these bonds is currently 10 percent, and interest is paid semiannually. The bonds mature in 5 years, and their current market value is $768 per bond. What is the annual coupon interest rate?

3.99%

7. (4 points) Assume that you are considering the purchase of a $1,000 par value bond that pays interest of $70 each six months and has 10 years to go before it matures. If you buy this bond, you expect to hold it for 5 years and then to sell it in the market. You (and other investors) currently require a nominal annual rate of 16 percent, but you expect the market to require a nominal rate of only 12 percent when you sell the bond due to a general decline in interest rates. How much should you be willing to pay for this bond?
8. (4 points) Doors and Frames Co. just paid a dividend of $2.90 per share. The dividends are expected to grow at a rate of 6 percent forever. A share in Doors and Frames Co. currently trades at $41.60. Assuming the stock is in equilibrium, what is the investors' required rate of return?

13.39%

9. (4 points) Chadmark Corporation is expanding rapidly, and it currently needs to retain all of its earnings, hence it does not pay any dividends. However, investors expect Chadmark to begin paying dividends, with the first dividend of $0.65 coming 2 years from today. The dividend should grow rapidly, at a rate of 40 percent per year, during Years 3 and 4. After Year 4, the company should grow at a constant rate of 8 percent per year. If the required return on the stock is 13 percent, what is the value of the stock today?

$18.79

10. (4 points) Pern Corp. just paid an annual dividend of $1.30. Dividends are expected to grow at a constant rate forever. The price of the stock is currently $26.00. The required rate of return for this stock is 14 percent. What is the expected growth rate of Pern's dividend?

8.57%

11. NYT Corporations is considering a project that will pay nothing for the first five years, $40,000 in the sixth year, $80,000 in the seventh year, $120,000 in the eighth year, $160,000 in the ninth year, and $200,000 in the tenth year. The appropriate discount rate is 8.5% and the project requires an investment tomorrow of $250,000 if we accept the project.

a. (4 points) The payback period for this investment is e. between 8 and 9 years.

b. (4 points) What is the IRR for this investment?

10.74%

c. (4 points) What is the NPV of this project?

$47430.10

d. (2 points) Should we accept the project? Why or why not?

Yes, because NPV > 0 or because IRR > WACC