1. If the present value of $600, expected one year from today, is $400, what is the one-year discount rate?
   1. 15 percent
   2. 20 percent
   3. 25 percent
   4. 50 percent
2. You just inherited a trust that will pay you $100,000 per year in perpetuity. However, the first payment will not occur for exactly five more years. Assuming a 10 percent annual interest rate, what is the value of this trust?

A. $620,921

B. $683,013

C. $1,000,000

D. $1,100,000

1. An investment having a 10.47 percent effective annual rate (EAR) has what APR? (Assume monthly compounding.)
   1. 10.99 percent
   2. 9.57 percent
   3. 10.00 percent
   4. 8.87 percent
2. Sansom Street Company expects to pay a dividend of $2 per share at the end of year 1, $3 per share at the end of year 2, and then be sold for $32 per share at the end of year 2. If the required rate of return on the stock is 15 percent, what is the current value of the stock?

A. $28.20

B. $32.17

C. $32.00

D. $29.18

1. Sansom Street Co. has 100 shares outstanding. It earns $1,000 per year and expects to pay all of it as dividends. If the firm expects to maintain this dividend forever, calculate the stock price today. (The required rate of return is 10 percent.)

A. $110

B. $100

C. $90

D. $10

1. A five-year treasury bond with a coupon rate of 8 percent has a face value of $1,000. What is the semiannual interest payment?

A. $80

B. $40

C. $100

D. $50

1. A five-year bond with a 10 percent coupon rate and $1,000 face value is selling for

$1,123. Calculate the yield to maturity on the bond assuming annual interest payments.

* 1. 10.0 percent
  2. 8.9 percent
  3. 7.0 percent
  4. 5.0 percent

1. You buy a 12-year 10 percent annual coupon bond at par value, $1,000. You sell the bond three years later for $1,100. What is your rate of return over this three-year period?
   1. 40 percent
   2. 10 percent
   3. 20 percent
   4. 30 percent
2. Briefly explain how the formulas that are used for valuing common stocks can also be used to value businesses.
3. What is the relationship between real and nominal rates of interest?
4. Suppose the beta of Amazon is 2.2, the risk-free rate is 5.5 percent, and the market risk premium is 8 percent. Calculate the expected rate of return for Amazon.
   1. 15.8 percent
   2. 14.3 percent
   3. 35.2 percent
   4. 23.1 percent
5. The market value of Sansom Street Company’s equity is $15 million and the market value of its debt is $5 million. If the required rate of return on the equity is 20 percent and that on its debt is 8 percent, calculate the company's cost of capital. (Assume no taxes.)
   1. 20 percent
   2. 17 percent
   3. 14 percent
   4. 11 percent
6. Explain Modigliani and Miller's Proposition I.
7. If a firm borrows $50 million for one year at an interest rate of 10 percent, what is the present value of the interest tax shield? Assume a 21 percent marginal corporate tax rate.
   1. $0.95 million
   2. $1.50 million
   3. $1.00 million
   4. $4.55 million
8. Suppose that a lawyer works for a firm that advises corporate firms planning to sue other corporations for antitrust damages. He finds that he can “beat the market” by short selling the stock of firms that will be sued. Discuss which forms of market efficiency this hypothetical finding would violate, if any.
9. When adding a risky asset to a portfolio of many risky assets, which property of the asset has a greater influence on risk: its standard deviation or covariance with the other assets? Explain.
10. Suppose you estimate that Stock A has a volatility of 32% and a beta of 1.42, whereas Stock B has a volatilely of 68% and a beta of 0.85.
11. Which stock has more total risk?
12. Which stock has more market risk?
13. Suppose the risk-free rate is 2% and you estimate the markets expected return as 10%. Which firm has a higher cost of equity capital?
14. Discuss the differences in financing options in private versus public markets.
15. Stock X has a standard deviation of return of 10 percent. Stock Y has a standard deviation of return of 20 percent. The correlation coefficient between the two stocks is

0.5. If you invest 60 percent of your funds in stock X and 40 percent in stock Y, what is the standard deviation of your portfolio?

1. What do private equity investments offer investors? Companies? The financial markets more generally?