PROBLEMS

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7–1 One year ago, James Sirlank bought Dell Computer common stock for $20 per share. Today the stock is selling for $19 per share. During the year, James received four dividend payments, each in the amount of $0.20 per share. (a) What rate of return did James earn during the year? (b) What were the (1) dividend yield and (2) the capital gains yield associated with the stock for the year?

7–2 Last year, Julie Johnson bought one share of common stock for $950. During the year, Julie received a $47.50 dividend. Earlier today, she sold the stock for $988. (a) What rate of return did Julie earn on her investment? (b) What were the (1) dividend yield and (2) the capital gains yield associated with holding the stock?

7–3 Express Surgery Center's (ESC) preferred stock, which has a par value equal to $110 per share, pays an annual dividend equal to 9 percent of the par value. If investors require a 15 percent return to purchase ESC's preferred stock, what is the stock's market value?

7–4 The Ape Copy Company's preferred stock pays an annual dividend equal to $16.50. If investors demand a return equal to 11 percent to purchase Ape's preferred stock, what is its market value?

7–5 Out-of-Sight Telecommunications (OST) has preferred stock outstanding with a par value of $40 per share that pays an annual dividend equal to 5 percent. (a) If investors who purchase similar investments require a 10 percent return, what is the market value of OST's preferred stock? (b) What would be the market value of the stock if investors require an 8 percent return?

7–6 Your broker offers to sell you shares of Wingler & Company common stock, which paid a dividend of $2 *yesterday*. You expect the dividend to grow at a rate of 5 percent per year into perpetuity. If the appropriate rate of return for the stock is 12 percent, what is the market value of Wingler's stock?

7–7 Alpine Ski Resort has grown at a constant rate, which equals 4 percent, for as long as it has been in business. This growth rate is expected to continue long into the future. A couple of days ago, Alpine paid common stockholders a dividend equal to $3 per share. If investors require a 10 percent rate of return to purchase Alpine's common stock, what is the market value of its common stock?

7–8 Since it started business 10 years ago, Alphafem Company has paid a constant $1.20 per share dividend to its common stockholders. Next year and every year thereafter, the company plans to increase the dividend at a constant rate equal to 2.5 percent per year. If investors require a 15 percent rate of return to purchase Alphafem's common stock, what is the market value of its common stock?

7–9 Suppose your company is expected to grow at a constant rate of 6 percent long into the future. In addition, its dividend yield is expected to be 8 percent. If your company expects to pay a dividend equal to $1.06 per share at the end of the year, what is the value of your firm's stock?

7–10 Ocala Company's stock is currently selling for $19.50 per share. At the end of the year, the company plans to pay a dividend equal to $2.34 per share. For the remainder of the company's life, dividends are expected to grow at a constant rate, and investors are expected to require a 16 percent return to invest in Ocala's stock. What should be the value of Ocala's stock five years from now?

7–11 Since it has been in business, FoolsGold Jewelry has never paid a dividend. The company will not pay a dividend at the end of this year. However, two years from today—at the end of Year 2—FoolsGold expects to pay a dividend equal to $0.50 per share, which it plans to increase by 6 percent each year thereafter for the remainder of the company's life. If investors require a 14 percent rate of return to purchase its common stock, what should be the market value of FoolsGold's stock today?

7–12 Minimight Company has never paid a dividend, and there are no plans to pay dividends during the next three years. But, in four years—that is, at the end of Year 4—the company expects to start paying a dividend equal to $3 per share. This same dividend will be paid for the remainder of Minimight's existence. If investors require a 10 percent rate of return to purchase the company's common stock, what should be the market value of Minimight's stock today?

7–13 Since it has been in business, FreeFin has paid a $1 per share annual dividend. The company plans to pay a $1 dividend for the next two years. Beginning in three years, however, FreeFin plans to increase the dividend by 8 percent each year for the remainder of the company's life. If investors require a 17 percent rate of return to purchase FreeFin's common stock, what should be the market value of its stock today?

7–14 Forral Company has never paid a dividend. But, the company plans to start paying dividends in two years—that is, at the end of Year 2. The first dividend is expected to equal $2 per share. The second dividend and every dividend thereafter are expected to grow at a 5 percent rate. If investors require a 15 percent rate of return to purchase Forral's common stock, what should be the market value of its stock today?

7–15 Xtinct Artifacts has not paid a dividend during the past 10 years. However, at the end of this year, the company plans to pay a $1.50 dividend and a $2 dividend the following year (Year 2). Starting in three years, the dividend will begin to grow by 5 percent each year for as long as the firm is in business. If investors require an 11 percent rate of return to purchase Xtinct's common stock, what should be the market value of its stock today?

7–16 Sparkle Jewelers expects to pay dividends (per share) of $0.60, $0.90, $2.40, and $3.50 during the next four years. Beginning in the fifth year, the dividend is expected to grow at a rate of 4 percent indefinitely. If investors require a 20 percent return to purchase Sparkle's stock, what is the current value of the company's stock?

7–17 Georgetown Motorcars' (GM) common stock normally sells for 19 times its earnings; that is, its P/E ratio equals 19. If GM's earnings per share are $3.70, what should be its stock price under normal circumstances?

7–18 For the past 15 years, the P/E ratio of North/South Travel has been between 28 and 30. If North/South's earnings per share equal $4, in what price range would you estimate its stock should be selling?

7–19 RJS generated $65,000 *net* income this year. The firm's financial statements also show that its interest expense was $40,000, its marginal tax rate was 35 percent, and its invested capital was $800,000. If its average cost of funds is 12 percent, what was RJS's economic value added (EVA) this year?

7–20 Backhaus Beer Brewers (BBB) just announced that the current fiscal year's *net* income was $1.2 million. BBB's marginal tax rate is 40 percent, its interest expense for the year was $1.5 million, it has $8 million of invested capital, and its average cost of funds was 10 percent. What is BBB's economic value added (EVA) for the current year?

8–5 Which of the following investments has the greater *relative* risk?

Investment	Expected Return, $\hat{r}$	Standard Deviation, σ
F	16.0%	7.0%
G	27.0	13.0

8–6 Rebecca invested $9,000 in a stock that has an expected return equal to 18 percent and $21,000 in a stock with an 8 percent expected return. What is the portfolio's expected return?

8–7 What is the expected return of the following portfolio of investments, $\hat{r}_p$:

Investment	$\hat{r}$	Amount Invested
DEF	4%	$30,000
JKL	24	25,000
TUV	14	45,000

8–8 Currently, the risk-free return is 3 percent, and the expected market rate of return is 9 percent. What is the expected return of the following three-stock portfolio?

Amount Invested	Beta
$350,000	1.0
250,000	0.2
400,000	2.5

8–9 Compute the (a) expected return and (b) standard deviation of the following investments:

Probability	r_{ABC}	r_{RST}
0.1	22.0%	–2.0%
0.6	12.0	12.0
0.3	2.0	30.0

(c) Suppose you form a portfolio that consists of 60 percent Investment ABC and 40 percent Investment RST. Compute the expected return and standard deviation of the portfolio. (d) Compare the portfolio's standard deviation with the individual investments' standard deviations.

8–10 Of the $60,000 invested in a two-stock portfolio, 40 percent is invested in Stock S and 60 percent is invested in Stock X. If Stock S has a beta coefficient equal to 1.5 and the beta of the portfolio is 2.1, what is the beta of Stock X?

8–11 Pete's investment portfolio contains five stocks that have a total value equal to $40,000. The beta coefficient of this portfolio is 1.2. Pete wants to invest an additional $10,000 in a stock that has beta equal to 2.2. After he adds this stock, what will be the portfolio's new beta?

8–12 Willis currently has $120,000 invested in a four-stock portfolio with a beta coefficient equal to 0.8. Willis plans to sell one of the stocks in his portfolio for $48,000, which will increase the portfolio's beta to 1.0. What is the beta coefficient of the stock Willis plans to sell?

8–13 Sharon's portfolio, which is valued at $200,000, contains six stocks and has a beta coefficient equal to 1.5. Later today, Sharon is going to sell one of the stocks in her portfolio for $40,000. After the sale, the portfolio's beta will be 1.3. What is the beta coefficient of the stock that Sharon plans to sell?

8–14 The current risk-free rate of return, r_{RF}, is 3 percent and the market *risk premium*, RP_M, is 6 percent. If the beta coefficient associated with a firm's stock is 1.5, what should be the stock's required rate of return?

8–15 Suppose the risk-free rate of return, r_{RF}, is 4 percent, and the market return, r_M, is expected to be 12 percent. What is the required rate of return for a stock with a beta coefficient, β, equal to 2.5?

8–16 ZR Corporation's stock has a beta coefficient equal to 0.8 and a required rate of return equal to 11 percent. If the expected return on the market is 12.5 percent, what is the risk-free rate of return, r_{RF}?

8–17 Stock V has a beta coefficient of 2.0, and Stock W has a beta of 0.5. The expected rate of return on an average stock is 11 percent, and the risk-free rate of return is 5 percent. By how much does the required return on the riskier stock exceed the required return on the less risky stock?

8–18 Recently, Kellie determined that the required rate of return for Stock Q is 11 percent. In her analysis, she determined that the risk-free rate of return, r_{RF}, is 4 percent and that the required return on the market portfolio, r_M, is 9 percent. Today, however, Kellie received new information that indicates the market risk premium, RP_M, is actually 1 percent higher than she estimated in her original analysis. Based on this new information, what should be the required rate of return for Stock Q?

8–19 Suppose the risk-free rate of return is 3.5 percent and the market *risk premium* is 7 percent. Stock U, which has a beta coefficient equal to 0.9, is currently selling for $28 per share. The company is expected to grow at a 4 percent rate forever, and the most recent dividend paid to stockholders was $1.75 per share. Is Stock U correctly priced? Explain.

8–20 High Energy (HE) Company recently paid a $2 per share dividend, which is expected to grow at a constant rate forever. HE's stock, which has a beta coefficient equal to 1.1, is selling for $37.50 per share. Currently, the risk-free rate of return is 4 percent, and the return on an average stock is 10 percent. If HE's stock is selling at its equilibrium price, what is its growth rate?