Chapter 07

Capital Asset Pricing and Arbitrage Pricing Theory

**Multiple Choice Questions**

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| 1. | An adjusted beta will be \_\_\_\_\_\_ than the unadjusted beta.      |  |  | | --- | --- | | A. | lower |  |  |  | | --- | --- | | B. | higher |  |  |  | | --- | --- | | C. | closer to 1 |  |  |  | | --- | --- | | D. | closer to 0 | |

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| 2. | Fama and French claim that after controlling for firm size and the ratio of the firm's book value to market value, beta is:  I. Highly significant in predicting future stock returns II. Relatively useless in predicting future stock returns III. A good predictor of the firm's specific risk      |  |  | | --- | --- | | A. | I only |  |  |  | | --- | --- | | B. | II only |  |  |  | | --- | --- | | C. | I and III only |  |  |  | | --- | --- | | D. | I, II, and III | |

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| 3. | Which of the following are assumptions of the simple CAPM model?  I. Individual trades of investors do not affect a stock's price. II. All investors plan for one identical holding period. III. All investors analyze securities in the same way and share the same economic view of the world.  IV. All investors have the same level of risk aversion.      |  |  | | --- | --- | | A. | I, II, and IV only |  |  |  | | --- | --- | | B. | I, II, and III only |  |  |  | | --- | --- | | C. | II, III, and IV only |  |  |  | | --- | --- | | D. | I, II, III, and IV | |

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| 4. | When all investors analyze securities in the same way and share the same economic view of the world, we say they have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | heterogeneous expectations |  |  |  | | --- | --- | | B. | equal risk aversion |  |  |  | | --- | --- | | C. | asymmetric information |  |  |  | | --- | --- | | D. | homogeneous expectations | |

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| 5. | In a simple CAPM world which of the following statements is (are) correct?  I. All investors will choose to hold the market portfolio, which includes all risky assets in the world. II. Investors' complete portfolio will vary depending on their risk aversion. III. The return per unit of risk will be identical for all individual assets. IV. The market portfolio will be on the efficient frontier, and it will be the optimal risky portfolio.      |  |  | | --- | --- | | A. | I, II, and III only |  |  |  | | --- | --- | | B. | II, III, and IV only |  |  |  | | --- | --- | | C. | I, III, and IV only |  |  |  | | --- | --- | | D. | I, II, III, and IV | |

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| 6. | Consider the CAPM. The risk-free rate is 6%, and the expected return on the market is 18%. What is the expected return on a stock with a beta of 1.3?      |  |  | | --- | --- | | A. | 6% |  |  |  | | --- | --- | | B. | 15.6% |  |  |  | | --- | --- | | C. | 18% |  |  |  | | --- | --- | | D. | 21.6% | |

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| 7. | Consider the CAPM. The risk-free rate is 5%, and the expected return on the market is 15%. What is the beta on a stock with an expected return of 17%?      |  |  | | --- | --- | | A. | .5 |  |  |  | | --- | --- | | B. | .7 |  |  |  | | --- | --- | | C. | 1 |  |  |  | | --- | --- | | D. | 1.2 | |

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| 8. | Consider the CAPM. The expected return on the market is 18%. The expected return on a stock with a beta of 1.2 is 20%. What is the risk-free rate?      |  |  | | --- | --- | | A. | 2% |  |  |  | | --- | --- | | B. | 6% |  |  |  | | --- | --- | | C. | 8% |  |  |  | | --- | --- | | D. | 12% | |

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| 9. | The arbitrage pricing theory was developed by \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | Henry Markowitz |  |  |  | | --- | --- | | B. | Stephen Ross |  |  |  | | --- | --- | | C. | William Sharpe |  |  |  | | --- | --- | | D. | Eugene Fama | |

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| 10. | In the context of the capital asset pricing model, the systematic measure of risk is captured by \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | unique risk |  |  |  | | --- | --- | | B. | beta |  |  |  | | --- | --- | | C. | the standard deviation of returns |  |  |  | | --- | --- | | D. | the variance of returns | |

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| 11. | Empirical results estimated from historical data indicate that betas \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | are always close to zero |  |  |  | | --- | --- | | B. | are constant over time |  |  |  | | --- | --- | | C. | of all securities are always between zero and 1 |  |  |  | | --- | --- | | D. | seem to regress toward 1 over time | |

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| 12. | If enough investors decide to purchase stocks, they are likely to drive up stock prices, thereby causing \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | expected returns to fall; risk premiums to fall |  |  |  | | --- | --- | | B. | expected returns to rise; risk premiums to fall |  |  |  | | --- | --- | | C. | expected returns to rise; risk premiums to rise |  |  |  | | --- | --- | | D. | expected returns to fall; risk premiums to rise | |

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| 13. | The market portfolio has a beta of \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | -1 |  |  |  | | --- | --- | | B. | 0 |  |  |  | | --- | --- | | C. | .5 |  |  |  | | --- | --- | | D. | 1 | |

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| 14. | In a well-diversified portfolio, \_\_\_\_\_\_\_\_\_\_ risk is negligible.      |  |  | | --- | --- | | A. | nondiversifiable |  |  |  | | --- | --- | | B. | market |  |  |  | | --- | --- | | C. | systematic |  |  |  | | --- | --- | | D. | unsystematic | |

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| 15. | The capital asset pricing model was developed by \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | Kenneth French |  |  |  | | --- | --- | | B. | Stephen Ross |  |  |  | | --- | --- | | C. | William Sharpe |  |  |  | | --- | --- | | D. | Eugene Fama | |

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| 16. | If all investors become more risk averse, the SML will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and stock prices will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | shift upward; rise |  |  |  | | --- | --- | | B. | shift downward; fall |  |  |  | | --- | --- | | C. | have the same intercept with a steeper slope; fall |  |  |  | | --- | --- | | D. | have the same intercept with a flatter slope; rise | |

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| 17. | According to the capital asset pricing model, a security with a \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | negative alpha is considered a good buy |  |  |  | | --- | --- | | B. | positive alpha is considered overpriced |  |  |  | | --- | --- | | C. | positive alpha is considered underpriced |  |  |  | | --- | --- | | D. | zero alpha is considered a good buy | |

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| 18. | Arbitrage is based on the idea that \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | assets with identical risks must have the same expected rate of return |  |  |  | | --- | --- | | B. | securities with similar risk should sell at different prices |  |  |  | | --- | --- | | C. | the expected returns from equally risky assets are different |  |  |  | | --- | --- | | D. | markets are perfectly efficient | |

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| 19. | Investors require a risk premium as compensation for bearing \_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | unsystematic risk |  |  |  | | --- | --- | | B. | alpha risk |  |  |  | | --- | --- | | C. | residual risk |  |  |  | | --- | --- | | D. | systematic risk | |

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| 20. | According to the capital asset pricing model, a fairly priced security will plot \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | above the security market line |  |  |  | | --- | --- | | B. | along the security market line |  |  |  | | --- | --- | | C. | below the security market line |  |  |  | | --- | --- | | D. | at no relation to the security market line | |

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| 21. | According to the capital asset pricing model, fairly priced securities have \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | negative betas |  |  |  | | --- | --- | | B. | positive alphas |  |  |  | | --- | --- | | C. | positive betas |  |  |  | | --- | --- | | D. | zero alphas | |

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| 22. | You have a $50,000 portfolio consisting of Intel, GE, and Con Edison. You put $20,000 in Intel, $12,000 in GE, and the rest in Con Edison. Intel, GE, and Con Edison have betas of 1.3, 1, and .8, respectively. What is your portfolio beta?      |  |  | | --- | --- | | A. | 1.048 |  |  |  | | --- | --- | | B. | 1.033 |  |  |  | | --- | --- | | C. | 1 |  |  |  | | --- | --- | | D. | 1.037 | |

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| 23. | The graph of the relationship between expected return and beta in the CAPM context is called the \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | CML |  |  |  | | --- | --- | | B. | CAL |  |  |  | | --- | --- | | C. | SML |  |  |  | | --- | --- | | D. | SCL | |

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| 24. | Research has revealed that regardless of what the current estimate of a firm's beta is, beta will tend to move closer to \_\_\_\_\_\_ over time.      |  |  | | --- | --- | | A. | 1 |  |  |  | | --- | --- | | B. | 0 |  |  |  | | --- | --- | | C. | -1 |  |  |  | | --- | --- | | D. | .5 | |

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| 25. | The beta of a security is equal to \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | the covariance between the security and market returns divided by the variance of the market's returns |  |  |  | | --- | --- | | B. | the covariance between the security and market returns divided by the standard deviation of the market's returns |  |  |  | | --- | --- | | C. | the variance of the security's returns divided by the covariance between the security and market returns |  |  |  | | --- | --- | | D. | the variance of the security's returns divided by the variance of the market's returns | |

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| 26. | According to the capital asset pricing model, in equilibrium \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | all securities' returns must lie below the capital market line |  |  |  | | --- | --- | | B. | all securities' returns must lie on the security market line |  |  |  | | --- | --- | | C. | the slope of the security market line must be less than the market risk premium |  |  |  | | --- | --- | | D. | any security with a beta of 1 must have an excess return of zero | |

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| 27. | According to the CAPM, which of the following is *not* a true statement regarding the market portfolio.      |  |  | | --- | --- | | A. | All securities in the market portfolio are held in proportion to their market values. |  |  |  | | --- | --- | | B. | It includes all risky assets in the world, including human capital. |  |  |  | | --- | --- | | C. | It is always the minimum-variance portfolio on the efficient frontier. |  |  |  | | --- | --- | | D. | It lies on the efficient frontier. | |

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| 28. | In a world where the CAPM holds, which one of the following is *not* a true statement regarding the capital market line?      |  |  | | --- | --- | | A. | The capital market line always has a positive slope. |  |  |  | | --- | --- | | B. | The capital market line is also called the *security market line.* |  |  |  | | --- | --- | | C. | The capital market line is the best-attainable capital allocation line. |  |  |  | | --- | --- | | D. | The capital market line is the line from the risk-free rate through the market portfolio. | |

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| 29. | Consider the single factor APT. Portfolio A has a beta of 1.3 and an expected return of 21%. Portfolio B has a beta of .7 and an expected return of 17%. The risk-free rate of return is 8%. If you wanted to take advantage of an arbitrage opportunity, you should take a short position in portfolio \_\_\_\_\_\_\_\_\_\_ and a long position in portfolio \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | A; A |  |  |  | | --- | --- | | B. | A; B |  |  |  | | --- | --- | | C. | B; A |  |  |  | | --- | --- | | D. | B; B | |

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| 30. | Consider the single factor APT. Portfolio A has a beta of .2 and an expected return of 13%. Portfolio B has a beta of .4 and an expected return of 15%. The risk-free rate of return is 10%. If you wanted to take advantage of an arbitrage opportunity, you should take a short position in portfolio \_\_\_\_\_\_\_\_\_\_ and a long position in portfolio \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | A; A |  |  |  | | --- | --- | | B. | A; B |  |  |  | | --- | --- | | C. | B; A |  |  |  | | --- | --- | | D. | B; B | |

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| 31. | Consider the multifactor APT with two factors. Portfolio A has a beta of .5 on factor 1 and a beta of 1.25 on factor 2. The risk premiums on the factor 1 and 2 portfolios are 1% and 7%, respectively. The risk-free rate of return is 7%. The expected return on portfolio A is \_\_\_\_\_\_\_\_\_\_ if no arbitrage opportunities exist.      |  |  | | --- | --- | | A. | 13.5% |  |  |  | | --- | --- | | B. | 15% |  |  |  | | --- | --- | | C. | 16.25% |  |  |  | | --- | --- | | D. | 23% | |

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| 32. | Consider the one-factor APT. The variance of the return on the factor portfolio is .08. The beta of a well-diversified portfolio on the factor is 1.2. The variance of the return on the well-diversified portfolio is approximately \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | .1152 |  |  |  | | --- | --- | | B. | .1270 |  |  |  | | --- | --- | | C. | .1521 |  |  |  | | --- | --- | | D. | .1342 | |

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| 33. | Security X has an expected rate of return of 13% and a beta of 1.15. The risk-free rate is 5%, and the market expected rate of return is 15%. According to the capital asset pricing model, security X is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | fairly priced |  |  |  | | --- | --- | | B. | overpriced |  |  |  | | --- | --- | | C. | underpriced |  |  |  | | --- | --- | | D. | none of these answers | |

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| 34. | The possibility of arbitrage arises when \_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | there is no consensus among investors regarding the future direction of the market, and thus trades are made arbitrarily |  |  |  | | --- | --- | | B. | mispricing among securities creates opportunities for riskless profits |  |  |  | | --- | --- | | C. | two identically risky securities carry the same expected returns |  |  |  | | --- | --- | | D. | investors do not diversify | |

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| 35. | Building a zero-investment portfolio will always involve \_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | an unknown mixture of short and long positions |  |  |  | | --- | --- | | B. | only short positions |  |  |  | | --- | --- | | C. | only long positions |  |  |  | | --- | --- | | D. | equal investments in a short and a long position | |

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| 36. | An important characteristic of market equilibrium is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | the presence of many opportunities for creating zero-investment portfolios |  |  |  | | --- | --- | | B. | all investors exhibit the same degree of risk aversion |  |  |  | | --- | --- | | C. | the absence of arbitrage opportunities |  |  |  | | --- | --- | | D. | the lack of liquidity in the market | |

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| 37. | Consider the capital asset pricing model. The market degree of risk aversion, *A,* is 3. The variance of return on the market portfolio is .0225. If the risk-free rate of return is 4%, the expected return on the market portfolio is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | 6.75% |  |  |  | | --- | --- | | B. | 9% |  |  |  | | --- | --- | | C. | 10.75% |  |  |  | | --- | --- | | D. | 12% | |

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| 38. | You invest $600 in security A with a beta of 1.5 and $400 in security B with a beta of .90. The beta of this portfolio is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | 1.14 |  |  |  | | --- | --- | | B. | 1.2 |  |  |  | | --- | --- | | C. | 1.26 |  |  |  | | --- | --- | | D. | 1.5 | |

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| 39. | In a single-factor market model the beta of a stock \_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | measures the stock's contribution to the standard deviation of the market portfolio |  |  |  | | --- | --- | | B. | measures the stock's unsystematic risk |  |  |  | | --- | --- | | C. | changes with the variance of the residuals |  |  |  | | --- | --- | | D. | measures the stock's contribution to the standard deviation of the stock | |

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| 40. | Security A has an expected rate of return of 12% and a beta of 1.1. The market expected rate of return is 8%, and the risk-free rate is 5%. The alpha of the stock is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | -1.7% |  |  |  | | --- | --- | | B. | 3.7% |  |  |  | | --- | --- | | C. | 5.5% |  |  |  | | --- | --- | | D. | 8.7% | |

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| 41. | The variance of the return on the market portfolio is .04 and the expected return on the market portfolio is 20%. If the risk-free rate of return is 10%, the market degree of risk aversion, *A,* is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | .5 |  |  |  | | --- | --- | | B. | 2.5 |  |  |  | | --- | --- | | C. | 3.5 |  |  |  | | --- | --- | | D. | 5 | |

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| 42. | The risk-free rate is 4%. The expected market rate of return is 11%. If you expect stock X with a beta of .8 to offer a rate of return of 12%, then you should \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | buy stock X because it is overpriced |  |  |  | | --- | --- | | B. | buy stock X because it is underpriced |  |  |  | | --- | --- | | C. | sell short stock X because it is overpriced |  |  |  | | --- | --- | | D. | sell short stock X because it is underpriced | |

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| 43. | Consider the one-factor APT. The standard deviation of return on a well-diversified portfolio is 20%. The standard deviation on the factor portfolio is 12%. The beta of the well-diversified portfolio is approximately \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | .60 |  |  |  | | --- | --- | | B. | 1 |  |  |  | | --- | --- | | C. | 1.67 |  |  |  | | --- | --- | | D. | 3.20 | |

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| 44. | The risk-free rate and the expected market rate of return are 6% and 16%, respectively. According to the capital asset pricing model, the expected rate of return on security X with a beta of 1.2 is equal to \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | 12% |  |  |  | | --- | --- | | B. | 17% |  |  |  | | --- | --- | | C. | 18% |  |  |  | | --- | --- | | D. | 23% | |

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| 45. | Consider two stocks, A and B. Stock A has an expected return of 10% and a beta of 1.2. Stock B has an expected return of 14% and a beta of 1.8. The expected market rate of return is 9% and the risk-free rate is 5%. Security \_\_\_\_\_\_\_\_\_\_ would be considered the better buy because \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | A; it offers an expected excess return of .2% |  |  |  | | --- | --- | | B. | A; it offers an expected excess return of 2.2% |  |  |  | | --- | --- | | C. | B; it offers an expected excess return of 1.8% |  |  |  | | --- | --- | | D. | B; it offers an expected return of 2.4% | |

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| 46. | According to the CAPM, the risk premium an investor expects to receive on any stock or portfolio is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | directly related to the risk aversion of the particular investor |  |  |  | | --- | --- | | B. | inversely related to the risk aversion of the particular investor |  |  |  | | --- | --- | | C. | directly related to the beta of the stock |  |  |  | | --- | --- | | D. | inversely related to the alpha of the stock | |

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| 47. | In his famous critique of the CAPM, Roll argued that the CAPM \_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | is not testable because the true market portfolio can never be observed |  |  |  | | --- | --- | | B. | is of limited use because systematic risk can never be entirely eliminated |  |  |  | | --- | --- | | C. | should be replaced by the APT |  |  |  | | --- | --- | | D. | should be replaced by the Fama-French three-factor model | |

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| 48. | Which of the following variables do Fama and French claim do a better job explaining stock returns than beta?  I. Book-to-market ratio II. Unexpected change in industrial production III. Firm size      |  |  | | --- | --- | | A. | I only |  |  |  | | --- | --- | | B. | I and II only |  |  |  | | --- | --- | | C. | I and III only |  |  |  | | --- | --- | | D. | I, II, and III | |

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| 49. | In a study conducted by Jagannathan and Wang, it was found that the performance of beta in explaining security returns could be considerably enhanced by:  I. Including the unsystematic risk of a stock II. Including human capital in the market portfolio III. Allowing for changes in beta over time      |  |  | | --- | --- | | A. | I and II only |  |  |  | | --- | --- | | B. | II and III only |  |  |  | | --- | --- | | C. | I and III only |  |  |  | | --- | --- | | D. | I, II, and III | |

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| 50. | The SML is valid for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and the CML is valid for \_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | only individual assets; well-diversified portfolios only |  |  |  | | --- | --- | | B. | only well-diversified portfolios; only individual assets |  |  |  | | --- | --- | | C. | both well-diversified portfolios and individual assets; both well-diversified portfolios and individual assets |  |  |  | | --- | --- | | D. | both well-diversified portfolios and individual assets; well-diversified portfolios only | |

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| 51. | Liquidity is a risk factor that \_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | has yet to be accurately measured and incorporated into portfolio management |  |  |  | | --- | --- | | B. | is unaffected by trading mechanisms on various stock exchanges |  |  |  | | --- | --- | | C. | has no effect on the market value of an asset |  |  |  | | --- | --- | | D. | affects bond prices but not stock prices | |

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| 52. | Beta is a measure of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | total risk |  |  |  | | --- | --- | | B. | relative systematic risk |  |  |  | | --- | --- | | C. | relative nonsystematic risk |  |  |  | | --- | --- | | D. | relative business risk | |

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| 53. | According to capital asset pricing theory, the key determinant of portfolio returns is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | the degree of diversification |  |  |  | | --- | --- | | B. | the systematic risk of the portfolio |  |  |  | | --- | --- | | C. | the firm-specific risk of the portfolio |  |  |  | | --- | --- | | D. | economic factors | |

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| 54. | The expected return of the risky-asset portfolio with minimum variance is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | the market rate of return |  |  |  | | --- | --- | | B. | zero |  |  |  | | --- | --- | | C. | the risk-free rate |  |  |  | | --- | --- | | D. | The answer cannot be determined from the information given. | |

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| 55. | According to the CAPM, investors are compensated for all but which of the following?      |  |  | | --- | --- | | A. | Expected inflation |  |  |  | | --- | --- | | B. | Systematic risk |  |  |  | | --- | --- | | C. | Time value of money |  |  |  | | --- | --- | | D. | Residual risk | |

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| 56. | The most significant conceptual difference between the arbitrage pricing theory (APT) and the capital asset pricing model (CAPM) is that the CAPM \_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | places less emphasis on market risk |  |  |  | | --- | --- | | B. | recognizes multiple unsystematic risk factors |  |  |  | | --- | --- | | C. | recognizes only one systematic risk factor |  |  |  | | --- | --- | | D. | recognizes multiple systematic risk factors | |

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| 57. | Arbitrage is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | an example of the law of one price |  |  |  | | --- | --- | | B. | the creation of riskless profits made possible by relative mispricing among securities |  |  |  | | --- | --- | | C. | a common opportunity in modern markets |  |  |  | | --- | --- | | D. | an example of a risky trading strategy based on market forecasting | |

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| 58. | A stock's alpha measures the stock's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | expected return |  |  |  | | --- | --- | | B. | abnormal return |  |  |  | | --- | --- | | C. | excess return |  |  |  | | --- | --- | | D. | residual return | |

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| 59. | The measure of unsystematic risk can be found from an index model as \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | residual standard deviation |  |  |  | | --- | --- | | B. | R-square |  |  |  | | --- | --- | | C. | degrees of freedom |  |  |  | | --- | --- | | D. | sum of squares of the regression | |

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| 60. | Standard deviation of portfolio returns is a measure of \_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | total risk |  |  |  | | --- | --- | | B. | relative systematic risk |  |  |  | | --- | --- | | C. | relative nonsystematic risk |  |  |  | | --- | --- | | D. | relative business risk | |

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| 61. | One of the main problems with the arbitrage pricing theory is \_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | its use of several factors instead of a single market index to explain the risk-return relationship |  |  |  | | --- | --- | | B. | the introduction of nonsystematic risk as a key factor in the risk-return relationship |  |  |  | | --- | --- | | C. | that the APT requires an even larger number of unrealistic assumptions than does the CAPM |  |  |  | | --- | --- | | D. | the model fails to identify the key macroeconomic variables in the risk-return relationship | |

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| 62. | You run a regression of a stock's returns versus a market index and find the following:      Based on the data, you know that the stock \_\_\_\_\_.      |  |  | | --- | --- | | A. | earned a positive alpha that is statistically significantly different from zero |  |  |  | | --- | --- | | B. | has a beta precisely equal to .890 |  |  |  | | --- | --- | | C. | has a beta that is likely to be anything between .6541 and 1.465 inclusive |  |  |  | | --- | --- | | D. | has no systematic risk | |

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| 63. | The expected return on the market portfolio is 15%. The risk-free rate is 8%. The expected return on SDA Corp. common stock is 16%. The beta of SDA Corp. common stock is 1.25. Within the context of the capital asset pricing model, \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | SDA Corp. stock is underpriced |  |  |  | | --- | --- | | B. | SDA Corp. stock is fairly priced |  |  |  | | --- | --- | | C. | SDA Corp. stock's alpha is -.75% |  |  |  | | --- | --- | | D. | SDA Corp. stock alpha is .75% | |

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| 64. | Assume that both X and Y are well-diversified portfolios and the risk-free rate is 8%. Portfolio X has an expected return of 14% and a beta of 1. Portfolio Y has an expected return of 9.5% and a beta of .25. In this situation, you would conclude that portfolios X and Y \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | are in equilibrium |  |  |  | | --- | --- | | B. | offer an arbitrage opportunity |  |  |  | | --- | --- | | C. | are both underpriced |  |  |  | | --- | --- | | D. | are both fairly priced | |

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| 65. | What is the expected return on the market?      |  |  | | --- | --- | | A. | 0% |  |  |  | | --- | --- | | B. | 5% |  |  |  | | --- | --- | | C. | 10% |  |  |  | | --- | --- | | D. | 15% | |

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| 66. | What is the beta for a portfolio with an expected return of 12.5%?      |  |  | | --- | --- | | A. | 0 |  |  |  | | --- | --- | | B. | 1 |  |  |  | | --- | --- | | C. | 1.5 |  |  |  | | --- | --- | | D. | 2 | |

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| 67. | What is the expected return for a portfolio with a beta of .5?      |  |  | | --- | --- | | A. | 5% |  |  |  | | --- | --- | | B. | 7.5% |  |  |  | | --- | --- | | C. | 12.5% |  |  |  | | --- | --- | | D. | 15% | |

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| 68. | What is the alpha of a portfolio with a beta of 2 and actual return of 15%?      |  |  | | --- | --- | | A. | 0% |  |  |  | | --- | --- | | B. | 13% |  |  |  | | --- | --- | | C. | 15% |  |  |  | | --- | --- | | D. | 17% | |

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| 69. | If the simple CAPM is valid and all portfolios are priced correctly, which of the situations below is possible? Consider each situation independently, and assume the risk-free rate is 5%.          |  |  | | --- | --- | | A. | Option A |  |  |  | | --- | --- | | B. | Option B |  |  |  | | --- | --- | | C. | Option C |  |  |  | | --- | --- | | D. | Option D | |

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| 70. | Two investment advisers are comparing performance. Adviser A averaged a 20% return with a portfolio beta of 1.5, and adviser B averaged a 15% return with a portfolio beta of 1.2. If the T-bill rate was 5% and the market return during the period was 13%, which adviser was the better stock picker?      |  |  | | --- | --- | | A. | Advisor A was better because he generated a larger alpha. |  |  |  | | --- | --- | | B. | Advisor B was better because she generated a larger alpha. |  |  |  | | --- | --- | | C. | Advisor A was better because he generated a higher return. |  |  |  | | --- | --- | | D. | Advisor B was better because she achieved a good return with a lower beta. | |

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| 71. | The expected return on the market is the risk-free rate plus the \_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | diversified returns |  |  |  | | --- | --- | | B. | equilibrium risk premium |  |  |  | | --- | --- | | C. | historical market return |  |  |  | | --- | --- | | D. | unsystematic return | |

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| 72. | You consider buying a share of stock at a price of $25. The stock is expected to pay a dividend of $1.50 next year, and your advisory service tells you that you can expect to sell the stock in 1 year for $28. The stock's beta is 1.1, *rf* is 6%, and *E*[*rm*] = 16%. What is the stock's abnormal return?      |  |  | | --- | --- | | A. | 1% |  |  |  | | --- | --- | | B. | 2% |  |  |  | | --- | --- | | C. | -1% |  |  |  | | --- | --- | | D. | -2% | |

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| 73. | If the beta of the market index is 1 and the standard deviation of the market index increases from 12% to 18%, what is the new beta of the market index?      |  |  | | --- | --- | | A. | .8 |  |  |  | | --- | --- | | B. | 1 |  |  |  | | --- | --- | | C. | 1.2 |  |  |  | | --- | --- | | D. | 1.5 | |

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| 74. | According to the CAPM, what is the market risk premium given an expected return on a security of 13.6%, a stock beta of 1.2, and a risk-free interest rate of 4%?      |  |  | | --- | --- | | A. | 4% |  |  |  | | --- | --- | | B. | 4.8% |  |  |  | | --- | --- | | C. | 6.6% |  |  |  | | --- | --- | | D. | 8% | |

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| 75. | According to the CAPM, what is the expected market return given an expected return on a security of 15.8%, a stock beta of 1.2, and a risk-free interest rate of 5%?      |  |  | | --- | --- | | A. | 5% |  |  |  | | --- | --- | | B. | 9% |  |  |  | | --- | --- | | C. | 13% |  |  |  | | --- | --- | | D. | 14% | |

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| 76. | What is the expected return on a stock with a beta of .8, given a risk-free rate of 3.5% and an expected market return of 15.5%?      |  |  | | --- | --- | | A. | 3.8% |  |  |  | | --- | --- | | B. | 13.1% |  |  |  | | --- | --- | | C. | 15.6% |  |  |  | | --- | --- | | D. | 19.1% | |

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| 77. | Research has identified two systematic factors that affect U.S. stock returns. The factors are growth in industrial production and changes in long-term interest rates. Industrial production growth is expected to be 3%, and long-term interest rates are expected to increase by 1%. You are analyzing a stock that has a beta of 1.2 on the industrial production factor and .5 on the interest rate factor. It currently has an expected return of 12%. However, if industrial production actually grows 5% and interest rates drop 2%, what is your best guess of the stock's return?      |  |  | | --- | --- | | A. | 15.9% |  |  |  | | --- | --- | | B. | 12.9% |  |  |  | | --- | --- | | C. | 13.2% |  |  |  | | --- | --- | | D. | 12% | |

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| 78. | A stock has a beta of 1.3. The systematic risk of this stock is \_\_\_\_\_\_\_\_\_\_\_\_ the stock market as a whole.      |  |  | | --- | --- | | A. | higher than |  |  |  | | --- | --- | | B. | lower than |  |  |  | | --- | --- | | C. | equal to |  |  |  | | --- | --- | | D. | indeterminable compared to | |

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| 79. | There are two independent economic factors, *M*1 and *M*2. The risk-free rate is 5%, and all stocks have independent firm-specific components with a standard deviation of 25%. Portfolios A and B are well diversified. Given the data below, which equation provides the correct pricing model?          |  |  | | --- | --- | | A. | *E*(*rP*) = 5 + 1.12β*P*1 + 11.86β*P*2 |  |  |  | | --- | --- | | B. | *E*(*rP*) = 5 + 4.96β*P*1 + 13.26β*P*2 |  |  |  | | --- | --- | | C. | *E*(*rP*) = 5 + 3.23β*P*1 + 8.46β*P*2 |  |  |  | | --- | --- | | D. | *E*(*rP*) = 5 + 8.71β*P*1 + 9.68β*P*2 | |

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| 80. | Using the index model, the alpha of a stock is 3%, the beta is 1.1, and the market return is 10%. What is the residual given an actual return of 15%?      |  |  | | --- | --- | | A. | .0% |  |  |  | | --- | --- | | B. | 1% |  |  |  | | --- | --- | | C. | 2% |  |  |  | | --- | --- | | D. | 3% | |

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| 81. | The risk premium for exposure to aluminum commodity prices is 4%, and the firm has a beta relative to aluminum commodity prices of .6. The risk premium for exposure to GDP changes is 6%, and the firm has a beta relative to GDP of 1.2. If the risk-free rate is 4%, what is the expected return on this stock?      |  |  | | --- | --- | | A. | 10% |  |  |  | | --- | --- | | B. | 11.5% |  |  |  | | --- | --- | | C. | 13.6% |  |  |  | | --- | --- | | D. | 14% | |

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| 82. | The two-factor model on a stock provides a risk premium for exposure to market risk of 9%, a risk premium for exposure to interest rate risk of (-1.3%), and a risk-free rate of 3.5%. The beta for exposure to market risk is 1, and the beta for exposure to interest rate risk is also 1. What is the expected return on the stock?      |  |  | | --- | --- | | A. | 8.7% |  |  |  | | --- | --- | | B. | 11.2% |  |  |  | | --- | --- | | C. | 13.8% |  |  |  | | --- | --- | | D. | 15.2% | |

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| 83. | The risk premium for exposure to exchange rates is 5%, and the firm has a beta relative to exchange rates of .4. The risk premium for exposure to the consumer price index is -6%, and the firm has a beta relative to the CPI of .8. If the risk-free rate is 3%, what is the expected return on this stock?      |  |  | | --- | --- | | A. | .2% |  |  |  | | --- | --- | | B. | 1.5% |  |  |  | | --- | --- | | C. | 3.6% |  |  |  | | --- | --- | | D. | 4% | |

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| 84. | The two-factor model on a stock provides a risk premium for exposure to market risk of 12%, a risk premium for exposure to silver commodity prices of 3.5%, and a risk-free rate of 4%. The beta for exposure to market risk is 1, and the beta for exposure to commodity prices is also 1. What is the expected return on the stock?      |  |  | | --- | --- | | A. | 11.6% |  |  |  | | --- | --- | | B. | 13% |  |  |  | | --- | --- | | C. | 15.3% |  |  |  | | --- | --- | | D. | 19.5% | |

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| 85. | The measure of risk used in the capital asset pricing model is \_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | specific risk |  |  |  | | --- | --- | | B. | the standard deviation of returns |  |  |  | | --- | --- | | C. | reinvestment risk |  |  |  | | --- | --- | | D. | beta | |

Chapter 07 Capital Asset Pricing and Arbitrage Pricing Theory Answer Key

**Multiple Choice Questions**

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| 1. | An adjusted beta will be \_\_\_\_\_\_ than the unadjusted beta.      |  |  | | --- | --- | | A. | lower |  |  |  | | --- | --- | | B. | higher |  |  |  | | --- | --- | | **C.** | closer to 1 |  |  |  | | --- | --- | | D. | closer to 0 | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and Index Models* |

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| 2. | Fama and French claim that after controlling for firm size and the ratio of the firm's book value to market value, beta is:  I. Highly significant in predicting future stock returns II. Relatively useless in predicting future stock returns III. A good predictor of the firm's specific risk      |  |  | | --- | --- | | A. | I only |  |  |  | | --- | --- | | **B.** | II only |  |  |  | | --- | --- | | C. | I and III only |  |  |  | | --- | --- | | D. | I, II, and III | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-03 Specify and use a multifactor security market line. Topic: Multifactor Models and the CAPM* |

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| 3. | Which of the following are assumptions of the simple CAPM model?  I. Individual trades of investors do not affect a stock's price. II. All investors plan for one identical holding period. III. All investors analyze securities in the same way and share the same economic view of the world.  IV. All investors have the same level of risk aversion.      |  |  | | --- | --- | | A. | I, II, and IV only |  |  |  | | --- | --- | | **B.** | I, II, and III only |  |  |  | | --- | --- | | C. | II, III, and IV only |  |  |  | | --- | --- | | D. | I, II, III, and IV | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 4. | When all investors analyze securities in the same way and share the same economic view of the world, we say they have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | heterogeneous expectations |  |  |  | | --- | --- | | B. | equal risk aversion |  |  |  | | --- | --- | | C. | asymmetric information |  |  |  | | --- | --- | | **D.** | homogeneous expectations | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 5. | In a simple CAPM world which of the following statements is (are) correct?  I. All investors will choose to hold the market portfolio, which includes all risky assets in the world. II. Investors' complete portfolio will vary depending on their risk aversion. III. The return per unit of risk will be identical for all individual assets. IV. The market portfolio will be on the efficient frontier, and it will be the optimal risky portfolio.      |  |  | | --- | --- | | A. | I, II, and III only |  |  |  | | --- | --- | | B. | II, III, and IV only |  |  |  | | --- | --- | | C. | I, III, and IV only |  |  |  | | --- | --- | | **D.** | I, II, III, and IV | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 3 Hard Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 6. | Consider the CAPM. The risk-free rate is 6%, and the expected return on the market is 18%. What is the expected return on a stock with a beta of 1.3?      |  |  | | --- | --- | | A. | 6% |  |  |  | | --- | --- | | B. | 15.6% |  |  |  | | --- | --- | | C. | 18% |  |  |  | | --- | --- | | **D.** | 21.6% |   *E*[*rs*] = 6% + [18% - 6%](1.3) = 21.6% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 7. | Consider the CAPM. The risk-free rate is 5%, and the expected return on the market is 15%. What is the beta on a stock with an expected return of 17%?      |  |  | | --- | --- | | A. | .5 |  |  |  | | --- | --- | | B. | .7 |  |  |  | | --- | --- | | C. | 1 |  |  |  | | --- | --- | | **D.** | 1.2 |   17% = 5% + [15% - 5%]β*s*; β*s* = 1.2 |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 8. | Consider the CAPM. The expected return on the market is 18%. The expected return on a stock with a beta of 1.2 is 20%. What is the risk-free rate?      |  |  | | --- | --- | | A. | 2% |  |  |  | | --- | --- | | B. | 6% |  |  |  | | --- | --- | | **C.** | 8% |  |  |  | | --- | --- | | D. | 12% |   20% = *rF* + (18 - *rF*)(1.2); *rF* = 8% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 9. | The arbitrage pricing theory was developed by \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | Henry Markowitz |  |  |  | | --- | --- | | **B.** | Stephen Ross |  |  |  | | --- | --- | | C. | William Sharpe |  |  |  | | --- | --- | | D. | Eugene Fama | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 10. | In the context of the capital asset pricing model, the systematic measure of risk is captured by \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | unique risk |  |  |  | | --- | --- | | **B.** | beta |  |  |  | | --- | --- | | C. | the standard deviation of returns |  |  |  | | --- | --- | | D. | the variance of returns | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 11. | Empirical results estimated from historical data indicate that betas \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | are always close to zero |  |  |  | | --- | --- | | B. | are constant over time |  |  |  | | --- | --- | | C. | of all securities are always between zero and 1 |  |  |  | | --- | --- | | **D.** | seem to regress toward 1 over time | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and Index Models* |

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| 12. | If enough investors decide to purchase stocks, they are likely to drive up stock prices, thereby causing \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | expected returns to fall; risk premiums to fall |  |  |  | | --- | --- | | B. | expected returns to rise; risk premiums to fall |  |  |  | | --- | --- | | C. | expected returns to rise; risk premiums to rise |  |  |  | | --- | --- | | D. | expected returns to fall; risk premiums to rise | |

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| *AACSB: Reflective Thinking Blooms: Understand Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line (B-level head)* |

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| 13. | The market portfolio has a beta of \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | -1 |  |  |  | | --- | --- | | B. | 0 |  |  |  | | --- | --- | | C. | .5 |  |  |  | | --- | --- | | **D.** | 1 | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and Index Models* |

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| 14. | In a well-diversified portfolio, \_\_\_\_\_\_\_\_\_\_ risk is negligible.      |  |  | | --- | --- | | A. | nondiversifiable |  |  |  | | --- | --- | | B. | market |  |  |  | | --- | --- | | C. | systematic |  |  |  | | --- | --- | | **D.** | unsystematic | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 15. | The capital asset pricing model was developed by \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | Kenneth French |  |  |  | | --- | --- | | B. | Stephen Ross |  |  |  | | --- | --- | | **C.** | William Sharpe |  |  |  | | --- | --- | | D. | Eugene Fama | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 16. | If all investors become more risk averse, the SML will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and stock prices will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | shift upward; rise |  |  |  | | --- | --- | | B. | shift downward; fall |  |  |  | | --- | --- | | **C.** | have the same intercept with a steeper slope; fall |  |  |  | | --- | --- | | D. | have the same intercept with a flatter slope; rise | |

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| *AACSB: Reflective Thinking Blooms: Understand Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line* |

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| 17. | According to the capital asset pricing model, a security with a \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | negative alpha is considered a good buy |  |  |  | | --- | --- | | B. | positive alpha is considered overpriced |  |  |  | | --- | --- | | **C.** | positive alpha is considered underpriced |  |  |  | | --- | --- | | D. | zero alpha is considered a good buy | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line (B-level head)* |

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| 18. | Arbitrage is based on the idea that \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | assets with identical risks must have the same expected rate of return |  |  |  | | --- | --- | | B. | securities with similar risk should sell at different prices |  |  |  | | --- | --- | | C. | the expected returns from equally risky assets are different |  |  |  | | --- | --- | | D. | markets are perfectly efficient | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 19. | Investors require a risk premium as compensation for bearing \_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | unsystematic risk |  |  |  | | --- | --- | | B. | alpha risk |  |  |  | | --- | --- | | C. | residual risk |  |  |  | | --- | --- | | **D.** | systematic risk | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 20. | According to the capital asset pricing model, a fairly priced security will plot \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | above the security market line |  |  |  | | --- | --- | | **B.** | along the security market line |  |  |  | | --- | --- | | C. | below the security market line |  |  |  | | --- | --- | | D. | at no relation to the security market line | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line* |

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| 21. | According to the capital asset pricing model, fairly priced securities have \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | negative betas |  |  |  | | --- | --- | | B. | positive alphas |  |  |  | | --- | --- | | C. | positive betas |  |  |  | | --- | --- | | **D.** | zero alphas | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line* |

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| 22. | You have a $50,000 portfolio consisting of Intel, GE, and Con Edison. You put $20,000 in Intel, $12,000 in GE, and the rest in Con Edison. Intel, GE, and Con Edison have betas of 1.3, 1, and .8, respectively. What is your portfolio beta?      |  |  | | --- | --- | | **A.** | 1.048 |  |  |  | | --- | --- | | B. | 1.033 |  |  |  | | --- | --- | | C. | 1 |  |  |  | | --- | --- | | D. | 1.037 | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 23. | The graph of the relationship between expected return and beta in the CAPM context is called the \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | CML |  |  |  | | --- | --- | | B. | CAL |  |  |  | | --- | --- | | **C.** | SML |  |  |  | | --- | --- | | D. | SCL | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line (B-level head)* |

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| 24. | Research has revealed that regardless of what the current estimate of a firm's beta is, beta will tend to move closer to \_\_\_\_\_\_ over time.      |  |  | | --- | --- | | **A.** | 1 |  |  |  | | --- | --- | | B. | 0 |  |  |  | | --- | --- | | C. | -1 |  |  |  | | --- | --- | | D. | .5 | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and Index Models* |

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| 25. | The beta of a security is equal to \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | the covariance between the security and market returns divided by the variance of the market's returns |  |  |  | | --- | --- | | B. | the covariance between the security and market returns divided by the standard deviation of the market's returns |  |  |  | | --- | --- | | C. | the variance of the security's returns divided by the covariance between the security and market returns |  |  |  | | --- | --- | | D. | the variance of the security's returns divided by the variance of the market's returns | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 26. | According to the capital asset pricing model, in equilibrium \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | all securities' returns must lie below the capital market line |  |  |  | | --- | --- | | **B.** | all securities' returns must lie on the security market line |  |  |  | | --- | --- | | C. | the slope of the security market line must be less than the market risk premium |  |  |  | | --- | --- | | D. | any security with a beta of 1 must have an excess return of zero | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line (B-level head)* |

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| 27. | According to the CAPM, which of the following is *not* a true statement regarding the market portfolio.      |  |  | | --- | --- | | A. | All securities in the market portfolio are held in proportion to their market values. |  |  |  | | --- | --- | | B. | It includes all risky assets in the world, including human capital. |  |  |  | | --- | --- | | **C.** | It is always the minimum-variance portfolio on the efficient frontier. |  |  |  | | --- | --- | | D. | It lies on the efficient frontier. | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 28. | In a world where the CAPM holds, which one of the following is *not* a true statement regarding the capital market line?      |  |  | | --- | --- | | A. | The capital market line always has a positive slope. |  |  |  | | --- | --- | | **B.** | The capital market line is also called the *security market line.* |  |  |  | | --- | --- | | C. | The capital market line is the best-attainable capital allocation line. |  |  |  | | --- | --- | | D. | The capital market line is the line from the risk-free rate through the market portfolio. | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 29. | Consider the single factor APT. Portfolio A has a beta of 1.3 and an expected return of 21%. Portfolio B has a beta of .7 and an expected return of 17%. The risk-free rate of return is 8%. If you wanted to take advantage of an arbitrage opportunity, you should take a short position in portfolio \_\_\_\_\_\_\_\_\_\_ and a long position in portfolio \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | A; A |  |  |  | | --- | --- | | **B.** | A; B |  |  |  | | --- | --- | | C. | B; A |  |  |  | | --- | --- | | D. | B; B | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 30. | Consider the single factor APT. Portfolio A has a beta of .2 and an expected return of 13%. Portfolio B has a beta of .4 and an expected return of 15%. The risk-free rate of return is 10%. If you wanted to take advantage of an arbitrage opportunity, you should take a short position in portfolio \_\_\_\_\_\_\_\_\_\_ and a long position in portfolio \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | A; A |  |  |  | | --- | --- | | B. | A; B |  |  |  | | --- | --- | | **C.** | B; A |  |  |  | | --- | --- | | D. | B; B | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 31. | Consider the multifactor APT with two factors. Portfolio A has a beta of .5 on factor 1 and a beta of 1.25 on factor 2. The risk premiums on the factor 1 and 2 portfolios are 1% and 7%, respectively. The risk-free rate of return is 7%. The expected return on portfolio A is \_\_\_\_\_\_\_\_\_\_ if no arbitrage opportunities exist.      |  |  | | --- | --- | | A. | 13.5% |  |  |  | | --- | --- | | B. | 15% |  |  |  | | --- | --- | | **C.** | 16.25% |  |  |  | | --- | --- | | D. | 23% |   *E(rA)* = 7 + 0.5(1) + 1.25(7) = 16.25% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-05 Use arbitrage pricing theory with more than one factor to identify mispriced securities. Topic: Multifactor Generalization of the APT and CAPM* |

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| 32. | Consider the one-factor APT. The variance of the return on the factor portfolio is .08. The beta of a well-diversified portfolio on the factor is 1.2. The variance of the return on the well-diversified portfolio is approximately \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | .1152 |  |  |  | | --- | --- | | B. | .1270 |  |  |  | | --- | --- | | C. | .1521 |  |  |  | | --- | --- | | D. | .1342 | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 33. | Security X has an expected rate of return of 13% and a beta of 1.15. The risk-free rate is 5%, and the market expected rate of return is 15%. According to the capital asset pricing model, security X is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | fairly priced |  |  |  | | --- | --- | | **B.** | overpriced |  |  |  | | --- | --- | | C. | underpriced |  |  |  | | --- | --- | | D. | none of these answers |   In equilibrium, *E*(*rX*) = 5% + 1.15(15% - 5%) = 16.5%. |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 34. | The possibility of arbitrage arises when \_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | there is no consensus among investors regarding the future direction of the market, and thus trades are made arbitrarily |  |  |  | | --- | --- | | **B.** | mispricing among securities creates opportunities for riskless profits |  |  |  | | --- | --- | | C. | two identically risky securities carry the same expected returns |  |  |  | | --- | --- | | D. | investors do not diversify | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 35. | Building a zero-investment portfolio will always involve \_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | an unknown mixture of short and long positions |  |  |  | | --- | --- | | B. | only short positions |  |  |  | | --- | --- | | C. | only long positions |  |  |  | | --- | --- | | **D.** | equal investments in a short and a long position | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 36. | An important characteristic of market equilibrium is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | the presence of many opportunities for creating zero-investment portfolios |  |  |  | | --- | --- | | B. | all investors exhibit the same degree of risk aversion |  |  |  | | --- | --- | | **C.** | the absence of arbitrage opportunities |  |  |  | | --- | --- | | D. | the lack of liquidity in the market | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 37. | Consider the capital asset pricing model. The market degree of risk aversion, *A,* is 3. The variance of return on the market portfolio is .0225. If the risk-free rate of return is 4%, the expected return on the market portfolio is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | 6.75% |  |  |  | | --- | --- | | B. | 9% |  |  |  | | --- | --- | | **C.** | 10.75% |  |  |  | | --- | --- | | D. | 12% | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 38. | You invest $600 in security A with a beta of 1.5 and $400 in security B with a beta of .90. The beta of this portfolio is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | 1.14 |  |  |  | | --- | --- | | B. | 1.2 |  |  |  | | --- | --- | | **C.** | 1.26 |  |  |  | | --- | --- | | D. | 1.5 | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 39. | In a single-factor market model the beta of a stock \_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | measures the stock's contribution to the standard deviation of the market portfolio |  |  |  | | --- | --- | | B. | measures the stock's unsystematic risk |  |  |  | | --- | --- | | C. | changes with the variance of the residuals |  |  |  | | --- | --- | | D. | measures the stock's contribution to the standard deviation of the stock | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 40. | Security A has an expected rate of return of 12% and a beta of 1.1. The market expected rate of return is 8%, and the risk-free rate is 5%. The alpha of the stock is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | -1.7% |  |  |  | | --- | --- | | **B.** | 3.7% |  |  |  | | --- | --- | | C. | 5.5% |  |  |  | | --- | --- | | D. | 8.7% | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line* |

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| 41. | The variance of the return on the market portfolio is .04 and the expected return on the market portfolio is 20%. If the risk-free rate of return is 10%, the market degree of risk aversion, *A,* is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | .5 |  |  |  | | --- | --- | | **B.** | 2.5 |  |  |  | | --- | --- | | C. | 3.5 |  |  |  | | --- | --- | | D. | 5 |   A = (.20 - .10)/.04 = 2.5 |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 42. | The risk-free rate is 4%. The expected market rate of return is 11%. If you expect stock X with a beta of .8 to offer a rate of return of 12%, then you should \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | buy stock X because it is overpriced |  |  |  | | --- | --- | | **B.** | buy stock X because it is underpriced |  |  |  | | --- | --- | | C. | sell short stock X because it is overpriced |  |  |  | | --- | --- | | D. | sell short stock X because it is underpriced | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line* |

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| 43. | Consider the one-factor APT. The standard deviation of return on a well-diversified portfolio is 20%. The standard deviation on the factor portfolio is 12%. The beta of the well-diversified portfolio is approximately \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | .60 |  |  |  | | --- | --- | | B. | 1 |  |  |  | | --- | --- | | **C.** | 1.67 |  |  |  | | --- | --- | | D. | 3.20 | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 44. | The risk-free rate and the expected market rate of return are 6% and 16%, respectively. According to the capital asset pricing model, the expected rate of return on security X with a beta of 1.2 is equal to \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | 12% |  |  |  | | --- | --- | | B. | 17% |  |  |  | | --- | --- | | **C.** | 18% |  |  |  | | --- | --- | | D. | 23% | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 45. | Consider two stocks, A and B. Stock A has an expected return of 10% and a beta of 1.2. Stock B has an expected return of 14% and a beta of 1.8. The expected market rate of return is 9% and the risk-free rate is 5%. Security \_\_\_\_\_\_\_\_\_\_ would be considered the better buy because \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | A; it offers an expected excess return of .2% |  |  |  | | --- | --- | | B. | A; it offers an expected excess return of 2.2% |  |  |  | | --- | --- | | **C.** | B; it offers an expected excess return of 1.8% |  |  |  | | --- | --- | | D. | B; it offers an expected return of 2.4% | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 3 Hard Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 46. | According to the CAPM, the risk premium an investor expects to receive on any stock or portfolio is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | directly related to the risk aversion of the particular investor |  |  |  | | --- | --- | | B. | inversely related to the risk aversion of the particular investor |  |  |  | | --- | --- | | **C.** | directly related to the beta of the stock |  |  |  | | --- | --- | | D. | inversely related to the alpha of the stock | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 47. | In his famous critique of the CAPM, Roll argued that the CAPM \_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | is not testable because the true market portfolio can never be observed |  |  |  | | --- | --- | | B. | is of limited use because systematic risk can never be entirely eliminated |  |  |  | | --- | --- | | C. | should be replaced by the APT |  |  |  | | --- | --- | | D. | should be replaced by the Fama-French three-factor model | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and the Real World* |

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| 48. | Which of the following variables do Fama and French claim do a better job explaining stock returns than beta?  I. Book-to-market ratio II. Unexpected change in industrial production III. Firm size      |  |  | | --- | --- | | A. | I only |  |  |  | | --- | --- | | B. | I and II only |  |  |  | | --- | --- | | **C.** | I and III only |  |  |  | | --- | --- | | D. | I, II, and III | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-03 Specify and use a multifactor security market line. Topic: Multifactor Models and the CAPM* |

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| 49. | In a study conducted by Jagannathan and Wang, it was found that the performance of beta in explaining security returns could be considerably enhanced by:  I. Including the unsystematic risk of a stock II. Including human capital in the market portfolio III. Allowing for changes in beta over time      |  |  | | --- | --- | | A. | I and II only |  |  |  | | --- | --- | | **B.** | II and III only |  |  |  | | --- | --- | | C. | I and III only |  |  |  | | --- | --- | | D. | I, II, and III | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and the Real World* |

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| 50. | The SML is valid for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and the CML is valid for \_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | only individual assets; well-diversified portfolios only |  |  |  | | --- | --- | | B. | only well-diversified portfolios; only individual assets |  |  |  | | --- | --- | | C. | both well-diversified portfolios and individual assets; both well-diversified portfolios and individual assets |  |  |  | | --- | --- | | **D.** | both well-diversified portfolios and individual assets; well-diversified portfolios only | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line* |

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| 51. | Liquidity is a risk factor that \_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | has yet to be accurately measured and incorporated into portfolio management |  |  |  | | --- | --- | | B. | is unaffected by trading mechanisms on various stock exchanges |  |  |  | | --- | --- | | C. | has no effect on the market value of an asset |  |  |  | | --- | --- | | D. | affects bond prices but not stock prices | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and the Real World* |

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| 52. | Beta is a measure of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | total risk |  |  |  | | --- | --- | | **B.** | relative systematic risk |  |  |  | | --- | --- | | C. | relative nonsystematic risk |  |  |  | | --- | --- | | D. | relative business risk | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 53. | According to capital asset pricing theory, the key determinant of portfolio returns is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | the degree of diversification |  |  |  | | --- | --- | | **B.** | the systematic risk of the portfolio |  |  |  | | --- | --- | | C. | the firm-specific risk of the portfolio |  |  |  | | --- | --- | | D. | economic factors | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 54. | The expected return of the risky-asset portfolio with minimum variance is \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | the market rate of return |  |  |  | | --- | --- | | B. | zero |  |  |  | | --- | --- | | C. | the risk-free rate |  |  |  | | --- | --- | | **D.** | The answer cannot be determined from the information given. | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 55. | According to the CAPM, investors are compensated for all but which of the following?      |  |  | | --- | --- | | A. | Expected inflation |  |  |  | | --- | --- | | B. | Systematic risk |  |  |  | | --- | --- | | C. | Time value of money |  |  |  | | --- | --- | | **D.** | Residual risk | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 56. | The most significant conceptual difference between the arbitrage pricing theory (APT) and the capital asset pricing model (CAPM) is that the CAPM \_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | places less emphasis on market risk |  |  |  | | --- | --- | | B. | recognizes multiple unsystematic risk factors |  |  |  | | --- | --- | | **C.** | recognizes only one systematic risk factor |  |  |  | | --- | --- | | D. | recognizes multiple systematic risk factors | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 57. | Arbitrage is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | an example of the law of one price |  |  |  | | --- | --- | | **B.** | the creation of riskless profits made possible by relative mispricing among securities |  |  |  | | --- | --- | | C. | a common opportunity in modern markets |  |  |  | | --- | --- | | D. | an example of a risky trading strategy based on market forecasting | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 58. | A stock's alpha measures the stock's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | expected return |  |  |  | | --- | --- | | **B.** | abnormal return |  |  |  | | --- | --- | | C. | excess return |  |  |  | | --- | --- | | D. | residual return | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line* |

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| 59. | The measure of unsystematic risk can be found from an index model as \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | residual standard deviation |  |  |  | | --- | --- | | B. | R-square |  |  |  | | --- | --- | | C. | degrees of freedom |  |  |  | | --- | --- | | D. | sum of squares of the regression | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and Index Models* |

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| 60. | Standard deviation of portfolio returns is a measure of \_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | total risk |  |  |  | | --- | --- | | B. | relative systematic risk |  |  |  | | --- | --- | | C. | relative nonsystematic risk |  |  |  | | --- | --- | | D. | relative business risk | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 61. | One of the main problems with the arbitrage pricing theory is \_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | its use of several factors instead of a single market index to explain the risk-return relationship |  |  |  | | --- | --- | | B. | the introduction of nonsystematic risk as a key factor in the risk-return relationship |  |  |  | | --- | --- | | C. | that the APT requires an even larger number of unrealistic assumptions than does the CAPM |  |  |  | | --- | --- | | **D.** | the model fails to identify the key macroeconomic variables in the risk-return relationship | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-04 Take advantage of an arbitrage opportunity with a portfolio that includes mispriced securities. Topic: Arbitrage Pricing Theory* |

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| 62. | You run a regression of a stock's returns versus a market index and find the following:      Based on the data, you know that the stock \_\_\_\_\_.      |  |  | | --- | --- | | A. | earned a positive alpha that is statistically significantly different from zero |  |  |  | | --- | --- | | B. | has a beta precisely equal to .890 |  |  |  | | --- | --- | | **C.** | has a beta that is likely to be anything between .6541 and 1.465 inclusive |  |  |  | | --- | --- | | D. | has no systematic risk | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 3 Hard Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 63. | The expected return on the market portfolio is 15%. The risk-free rate is 8%. The expected return on SDA Corp. common stock is 16%. The beta of SDA Corp. common stock is 1.25. Within the context of the capital asset pricing model, \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | SDA Corp. stock is underpriced |  |  |  | | --- | --- | | B. | SDA Corp. stock is fairly priced |  |  |  | | --- | --- | | **C.** | SDA Corp. stock's alpha is -.75% |  |  |  | | --- | --- | | D. | SDA Corp. stock alpha is .75% | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line (B-level head)* |

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| 64. | Assume that both X and Y are well-diversified portfolios and the risk-free rate is 8%. Portfolio X has an expected return of 14% and a beta of 1. Portfolio Y has an expected return of 9.5% and a beta of .25. In this situation, you would conclude that portfolios X and Y \_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | are in equilibrium |  |  |  | | --- | --- | | B. | offer an arbitrage opportunity |  |  |  | | --- | --- | | C. | are both underpriced |  |  |  | | --- | --- | | D. | are both fairly priced |   Thus, there are no arbitrage opportunities, and X and Y are in equilibrium. |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 65. | What is the expected return on the market?      |  |  | | --- | --- | | A. | 0% |  |  |  | | --- | --- | | B. | 5% |  |  |  | | --- | --- | | **C.** | 10% |  |  |  | | --- | --- | | D. | 15% | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 1 Easy Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line* |

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| 66. | What is the beta for a portfolio with an expected return of 12.5%?      |  |  | | --- | --- | | A. | 0 |  |  |  | | --- | --- | | B. | 1 |  |  |  | | --- | --- | | **C.** | 1.5 |  |  |  | | --- | --- | | D. | 2 |   Since *rf* = 5% and *E*(*rM*) = 10%, from the CAPM we know that 12.5% = 5% + beta(10% - 5%), and therefore beta = 1.5. |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 67. | What is the expected return for a portfolio with a beta of .5?      |  |  | | --- | --- | | A. | 5% |  |  |  | | --- | --- | | **B.** | 7.5% |  |  |  | | --- | --- | | C. | 12.5% |  |  |  | | --- | --- | | D. | 15% | |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 68. | What is the alpha of a portfolio with a beta of 2 and actual return of 15%?      |  |  | | --- | --- | | **A.** | 0% |  |  |  | | --- | --- | | B. | 13% |  |  |  | | --- | --- | | C. | 15% |  |  |  | | --- | --- | | D. | 17% |   CAPM *E*(*ri*) = 5% + 2(10% - 5%) = 15%; Alpha = Actual return - Expected return = 15% - 15% = 0% A portfolio with a return of 15% and a beta of 2 lies on the SML and therefore has an alpha of zero. |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line (B-level head)* |

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| 69. | If the simple CAPM is valid and all portfolios are priced correctly, which of the situations below is possible? Consider each situation independently, and assume the risk-free rate is 5%.          |  |  | | --- | --- | | A. | Option A |  |  |  | | --- | --- | | B. | Option B |  |  |  | | --- | --- | | C. | Option C |  |  |  | | --- | --- | | **D.** | Option D |   A) Not possible—two portfolios with different betas cannot have the same expected return. B) Not possible—under CAPM market portfolio must yield highest CAL. C) Not possible—portfolio A and the market have different excess returns per unit of risk. D) Possible |

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| *AACSB: Analytic Blooms: Apply Difficulty: 3 Hard Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 70. | Two investment advisers are comparing performance. Adviser A averaged a 20% return with a portfolio beta of 1.5, and adviser B averaged a 15% return with a portfolio beta of 1.2. If the T-bill rate was 5% and the market return during the period was 13%, which adviser was the better stock picker?      |  |  | | --- | --- | | **A.** | Advisor A was better because he generated a larger alpha. |  |  |  | | --- | --- | | B. | Advisor B was better because she generated a larger alpha. |  |  |  | | --- | --- | | C. | Advisor A was better because he generated a higher return. |  |  |  | | --- | --- | | D. | Advisor B was better because she achieved a good return with a lower beta. |   Required return A = 5% + (13% - 5%)(1.5) = 17% Required return B = 5% + (13% - 5%)(1.2) = 14.6% α*A* = Actual return A - Required return A = 20% - 17% = 3% α*B* = Actual return B - Required return B = 15% - 14.6% = .4% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 3 Hard Learning Objective: 07-02 Construct and use the security market line. Topic: The Security Market Line (B-level head)* |

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| 71. | The expected return on the market is the risk-free rate plus the \_\_\_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | diversified returns |  |  |  | | --- | --- | | **B.** | equilibrium risk premium |  |  |  | | --- | --- | | C. | historical market return |  |  |  | | --- | --- | | D. | unsystematic return | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 72. | You consider buying a share of stock at a price of $25. The stock is expected to pay a dividend of $1.50 next year, and your advisory service tells you that you can expect to sell the stock in 1 year for $28. The stock's beta is 1.1, *rf* is 6%, and *E*[*rm*] = 16%. What is the stock's abnormal return?      |  |  | | --- | --- | | **A.** | 1% |  |  |  | | --- | --- | | B. | 2% |  |  |  | | --- | --- | | C. | -1% |  |  |  | | --- | --- | | D. | -2% |   Required return = 6% + (16% - 6%)(1.1) = 17% Abnormal return = 18% - 17% = 1% |

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| 73. | If the beta of the market index is 1 and the standard deviation of the market index increases from 12% to 18%, what is the new beta of the market index?      |  |  | | --- | --- | | A. | .8 |  |  |  | | --- | --- | | **B.** | 1 |  |  |  | | --- | --- | | C. | 1.2 |  |  |  | | --- | --- | | D. | 1.5 |   Market beta always equals 1 regardless of market volatility. |

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| *AACSB: Analytic Blooms: Apply Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 74. | According to the CAPM, what is the market risk premium given an expected return on a security of 13.6%, a stock beta of 1.2, and a risk-free interest rate of 4%?      |  |  | | --- | --- | | A. | 4% |  |  |  | | --- | --- | | B. | 4.8% |  |  |  | | --- | --- | | C. | 6.6% |  |  |  | | --- | --- | | **D.** | 8% |   13.6 = 4 + 1.2 × (MRP); MRP = 8% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 75. | According to the CAPM, what is the expected market return given an expected return on a security of 15.8%, a stock beta of 1.2, and a risk-free interest rate of 5%?      |  |  | | --- | --- | | A. | 5% |  |  |  | | --- | --- | | B. | 9% |  |  |  | | --- | --- | | C. | 13% |  |  |  | | --- | --- | | **D.** | 14% |   15.8 = 5 + 1.2 × (MRP); MRP = 9%; Expected market return = 5 + 9 = 14% |

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| 76. | What is the expected return on a stock with a beta of .8, given a risk-free rate of 3.5% and an expected market return of 15.5%?      |  |  | | --- | --- | | A. | 3.8% |  |  |  | | --- | --- | | **B.** | 13.1% |  |  |  | | --- | --- | | C. | 15.6% |  |  |  | | --- | --- | | D. | 19.1% |   Expected return = 3.5 + (.8)(15.5 - 3.5) = 13.1% |

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| 77. | Research has identified two systematic factors that affect U.S. stock returns. The factors are growth in industrial production and changes in long-term interest rates. Industrial production growth is expected to be 3%, and long-term interest rates are expected to increase by 1%. You are analyzing a stock that has a beta of 1.2 on the industrial production factor and .5 on the interest rate factor. It currently has an expected return of 12%. However, if industrial production actually grows 5% and interest rates drop 2%, what is your best guess of the stock's return?      |  |  | | --- | --- | | A. | 15.9% |  |  |  | | --- | --- | | **B.** | 12.9% |  |  |  | | --- | --- | | C. | 13.2% |  |  |  | | --- | --- | | D. | 12% |   *E*[*r*new] = 12% + (5% - 3%)(1.2) + (-2% - 1%)(.5) = 12.9% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 3 Hard Learning Objective: 07-05 Use arbitrage pricing theory with more than one factor to identify mispriced securities. Topic: Multifactor Generalization of the APT and CAPM (B-level head)* |

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| 78. | A stock has a beta of 1.3. The systematic risk of this stock is \_\_\_\_\_\_\_\_\_\_\_\_ the stock market as a whole.      |  |  | | --- | --- | | **A.** | higher than |  |  |  | | --- | --- | | B. | lower than |  |  |  | | --- | --- | | C. | equal to |  |  |  | | --- | --- | | D. | indeterminable compared to | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |

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| 79. | There are two independent economic factors, *M*1 and *M*2. The risk-free rate is 5%, and all stocks have independent firm-specific components with a standard deviation of 25%. Portfolios A and B are well diversified. Given the data below, which equation provides the correct pricing model?          |  |  | | --- | --- | | A. | *E*(*rP*) = 5 + 1.12β*P*1 + 11.86β*P*2 |  |  |  | | --- | --- | | B. | *E*(*rP*) = 5 + 4.96β*P*1 + 13.26β*P*2 |  |  |  | | --- | --- | | C. | *E*(*rP*) = 5 + 3.23β*P*1 + 8.46β*P*2 |  |  |  | | --- | --- | | **D.** | *E*(*rP*) = 5 + 8.71β*P*1 + 9.68β*P*2 |   35 = 5 + 1.5 γ1 + 1.75 γ2; solve for γ1 γ1 = 20 - 1.1667γ2 20 = 5 + γ1 + .65γ2; sub in γ1 20 = 5 + 20 - 1.1667 γ2 + .65 γ2 γ2 = 9.68% γ1 = 8.71% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 3 Hard Learning Objective: 07-03 Specify and use a multifactor security market line. Topic: Multifactor Models and the CAPM* |

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| 80. | Using the index model, the alpha of a stock is 3%, the beta is 1.1, and the market return is 10%. What is the residual given an actual return of 15%?      |  |  | | --- | --- | | A. | .0% |  |  |  | | --- | --- | | **B.** | 1% |  |  |  | | --- | --- | | C. | 2% |  |  |  | | --- | --- | | D. | 3% |   Residual = 15 - (3 + 1.1 × 10) = 1% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The CAPM and Index Models* |

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| 81. | The risk premium for exposure to aluminum commodity prices is 4%, and the firm has a beta relative to aluminum commodity prices of .6. The risk premium for exposure to GDP changes is 6%, and the firm has a beta relative to GDP of 1.2. If the risk-free rate is 4%, what is the expected return on this stock?      |  |  | | --- | --- | | A. | 10% |  |  |  | | --- | --- | | B. | 11.5% |  |  |  | | --- | --- | | **C.** | 13.6% |  |  |  | | --- | --- | | D. | 14% |   Return = .04 + .6(.04) + 1.2(.06) = .136 |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-05 Use arbitrage pricing theory with more than one factor to identify mispriced securities. Topic: Multifactor Generalization of the APT and CAPM* |

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| 82. | The two-factor model on a stock provides a risk premium for exposure to market risk of 9%, a risk premium for exposure to interest rate risk of (-1.3%), and a risk-free rate of 3.5%. The beta for exposure to market risk is 1, and the beta for exposure to interest rate risk is also 1. What is the expected return on the stock?      |  |  | | --- | --- | | A. | 8.7% |  |  |  | | --- | --- | | **B.** | 11.2% |  |  |  | | --- | --- | | C. | 13.8% |  |  |  | | --- | --- | | D. | 15.2% |   Return = 3.5 + 9 - 1.3 = 11.2% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-03 Specify and use a multifactor security market line. Topic: Multifactor Models and the CAPM* |

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| 83. | The risk premium for exposure to exchange rates is 5%, and the firm has a beta relative to exchange rates of .4. The risk premium for exposure to the consumer price index is -6%, and the firm has a beta relative to the CPI of .8. If the risk-free rate is 3%, what is the expected return on this stock?      |  |  | | --- | --- | | **A.** | .2% |  |  |  | | --- | --- | | B. | 1.5% |  |  |  | | --- | --- | | C. | 3.6% |  |  |  | | --- | --- | | D. | 4% |   Return = .03 + .4(.05) + .8(-.06) = .002 |

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| 84. | The two-factor model on a stock provides a risk premium for exposure to market risk of 12%, a risk premium for exposure to silver commodity prices of 3.5%, and a risk-free rate of 4%. The beta for exposure to market risk is 1, and the beta for exposure to commodity prices is also 1. What is the expected return on the stock?      |  |  | | --- | --- | | A. | 11.6% |  |  |  | | --- | --- | | B. | 13% |  |  |  | | --- | --- | | C. | 15.3% |  |  |  | | --- | --- | | **D.** | 19.5% |   Return = 3.5 + 4 + 12 = 19.5% |

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| *AACSB: Analytic Blooms: Apply Difficulty: 2 Medium Learning Objective: 07-03 Specify and use a multifactor security market line. Topic: Multifactor Models and the CAPM* |

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| 85. | The measure of risk used in the capital asset pricing model is \_\_\_\_\_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | specific risk |  |  |  | | --- | --- | | B. | the standard deviation of returns |  |  |  | | --- | --- | | C. | reinvestment risk |  |  |  | | --- | --- | | **D.** | beta | |

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| *AACSB: Analytic Blooms: Remember Difficulty: 1 Easy Learning Objective: 07-01 Use the implications of capital market theory to estimate security risk premiums. Topic: The Capital Asset Pricing Model* |