***FINA 3000: FINANCIAL MANAGEMENT***

***TEST 2***

***October 14th, 2015***

***7 pm-9 pm***

***INSTRUCTIONS:***

***BEFORE YOU BEGIN, FILL OUT YOUR SCANTRON:***

***1. Enter your LAST name.***

***2. Enter your FIRST name.***

***3. Bubble in your 810 number.***

***4. Verify that the test code bubbled on your test matches the number in the top right corner of your test.***

***5. Wait until the proctor says to begin.***

***TEST INFORMATION:***

***1. For true/false questions, enter A on the scantron if the answer is TRUE, and enter B on the scantron if the answer is FALSE.***

***2. For multiple choice questions, enter the answer that best completes the question. For numerical answers, select the choice that is closest to your answer as rounding may cause slight differences in your result and my posted answer.***

***3. WE NEED YOUR TEST AND SCANTRON WHEN YOU TURN IN YOUR EXAM. FAILURE TO DO EITHER WILL RESULT IN A 0.***

*I agree to abide by the University of Georgia Culture of Honesty.*

*Signed:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*PRINTED NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

***SECTION I: TRUE/FALSE (2 points each)***

***If the statement is TRUE, mark letter A on the scantron. If the statement is FALSE, mark letter B on the scantron.***

1. The scholarship startup, Raise.Me, has an advantage in that it does not rely on taxpayer money to fund students.

2. The risk of a diversified portfolio is composed entirely of systematic risk.

3. Two stocks have the same correlation with the market portfolio. We can safely assume that the betas for the two stocks are equal.

4. As the size of a portfolio increases, the variance of the individual assets in the portfolio is more critical than the covariances between assets in the portfolio.

5. As the volatility of an investment increases, the range of its 95% confidence interval also increases.

6. The capital gain for a stock can be positive or negative.

7. When projects are mutually exclusive, we take any project that has a positive NPV.

8. LIBOR stands for Loan Interest Borrowing Rate.

9. Systematic risk is another way to describe firm-specific risk.

10. The market portfolio risk premium is larger for small cap stocks than larger stocks.

11. Our dividend stock pricing models would likely price an established company more accurately than a start-up firm.

12. Apple allows its startup purchases to operate as stand-alone units while creating value for the company.

13. Our Volkswagen current event was an example of firm specific risk.

14. A stock has the same systematic risk as the average investment in the economy. We can say that this stock will have a beta of 1.

15. A large weakness of the IRR rule is that it assumes all cash flows are reinvested at the IRR.

16. When comparing two projects with different scale (i.e. size of cash flows), the IRR is a better approach to selecting the more valuable project.

17. Product line diversification (i.e. Krispy Kreme current event) is always successful.

18. For contingent projects, we can never accept a group of projects if one of them has a negative NPV.

19. If the expected return of an investment is greater than the required return, we say that the stock is overvalued.

20. If the Federal Reserve increases the risk-free rate, our SML model suggests that stock prices will increase.

***SECTION II: CONCEPT MULTIPLE CHOICE (2 points each)***

***Select the answer that best completes the question.***

21. An investor purchased a share of Mannkind stock one year ago for $3.80. The investor will sell the share today for $4.50. What is the capital gain yield for the investor?

|  |  |
| --- | --- |
| a. | 9.52% |
| b. | 10.53% |
| c. | 15.56% |
| d. | 18.42% |

22. A stock has a beta of 1.50. In the current economy, the risk-free rate is 2%, while the market portfolio risk premium is 6%. What is the required return to hold the stock?

|  |  |
| --- | --- |
| a. | 6.80% |
| b. | 8.00% |
| c. | 9.20% |
| d. | 11.00% |

23. An entrepreneur decides to invest in a fast food franchise for $1,000,000 today. The restaurant will generate an annual cash flow of $125,000. What is the payback for this investment?

|  |  |
| --- | --- |
| a. | 3 years |
| b. | 5 years  |
| c. | 7 years |
| d. | 8 years |

24. A stock has an expected return of 12% and a standard deviation of 20%. What is the 95% confidence interval for returns on this stock next year?

|  |  |
| --- | --- |
| a. | (-28%,52%) |
| b. | (-8%,32%) |
| c. | (0%,12%) |
| d. | (0%,32%) |

25. A stock was purchased last year for $20. Today, the company paid a dividend of $0.50 per share, and the stock now sells for $20.80. What is the total return for holding this stock the past year?

|  |  |
| --- | --- |
| a. | 1.50% |
| b. | 4.00% |
| c. | 6.25% |
| d. | 6.50% |

***SECTION III: PROBLEMS (4 points each except where noted)***

***Use the following information to answer questions 26-30:***

*Raylen Givens Incorporated has shares selling on the NYSE. Below, price and dividend data is shown for RGI over the last three years. The prices and dividends are at the END of the year shown.*

|  |  |  |
| --- | --- | --- |
| END OF YEAR | PRICE | DIVIDEND |
| 2015 | $50.00  | $1.00  |
| 2014 | $44.00  | $0.75  |
| 2013 | $48.00  | $0.25  |
| 2012 | $45.00  |   |

26. What is the return for 2015 for Raylen Givens Incorporated?

|  |  |
| --- | --- |
| a. | 13.64% |
| b. | 14.77% |
| c. | 15.91% |
| d. | 17.05% |
| e. | 18.18% |

27. What is the arithmetic average return for the sample period for the firm?

|  |  |
| --- | --- |
| a. | 4.76% |
| b. | 4.88% |
| c. | 5.04% |
| d. | 5.25% |
| e. | 5.45% |

28. What is the standard deviation for the sample period for Raylen Givens Incorporated?

|  |  |
| --- | --- |
| a. | 10.51% |
| b. | 10.92% |
| c. | 11.44% |
| d. | 12.02% |
| e. | 12.50% |

29. An investor purchased 100 shares of Raylen Givens stock in 2012 for $45.00 per share. What is the value of this investment at the end of 2015? (assume that dividends are reinvested)

|  |  |
| --- | --- |
| a. | $4,985 |
| b. | $5,050 |
| c. | $5,138 |
| d. | $5,157 |
| e. | $5,214 |

30. What is the geometric return over the sample period?

|  |  |
| --- | --- |
| a. | 4.30% |
| b. | 4.52% |
| c. | 4.65% |
| d. | 4.75% |
| e. | 5.03% |

31. A dedicated investor examines the financials of Spieth-Day Incorporated. She projects the following stock data for Spieth-Day over the next three years:

|  |  |  |  |
| --- | --- | --- | --- |
| YEAR | 1 | 2 | 3 |
| Dividend | $1.00 | $1.25 | $1.50 |
| Selling Price |  |  | $50.00 |

The investor would like a 12% annual return over the next three years. How much can the investor pay today for a share of Spieth-Day stock?

|  |  |
| --- | --- |
| a. | $34.36 |
| b. | $35.68 |
| c. | $37.12 |
| d. | $38.55 |
| e. | $40.63 |
|  |  |

***Use the following information to answer questions 32-34:***

An investor has created a portfolio consisting of two stocks. Information about his investment is shown below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| STOCK | Shares Purchased | Price per Share | Expected Return | Standard Deviation |
| AAPL |  50  | $115  | 8% | 25% |
| FB |  35  | $95  | 12% | 30% |

The correlation between AAPL and FB returns is 0.55.

32. What is the expected return of this portfolio?

|  |  |
| --- | --- |
| a. | 8.47% |
| b. | 8.65% |
| c. | 9.47% |
| d. | 9.65% |
| e. | 9.83% |

33. What is the risk of this portfolio?

|  |  |
| --- | --- |
| a. | 22.61% |
| b. | 23.73% |
| c. | 24.03% |
| d. | 25.01% |
| e. | 25.58% |

34. If the investor wants to consolidate all of his portfolio into one stock, which stock should he choose? (assume he bases his choice on selecting risk per unit of return)

|  |  |
| --- | --- |
| a. | AAPL |
| b. | FB |
| c. | You cannot tell with the information provided. |

35. A stock analyst wants to use a dividend pricing model to value Google stock. The analyst believes Google will pay its first dividend in exactly 15 years, and she is guessing that the dividend will be $10.00 per share at that time. The analyst assumes that dividends will grow by 5% per year going forward after year 15. The required return to hold Google is estimated to be 12% per year. Based on these assumptions, what is the intrinsic value of Google stock TODAY?

|  |  |
| --- | --- |
| a. | $25.58 |
| b. | $28.65 |
| c. | $29.23 |
| d. | $29.86 |
| e. | $32.74 |

36. An entrepreneur is trying to pitch an idea to a potential investor. As part of the pitch, she shows projected cash flows for the investor based on a $100,000 investment today. The cash flows are shown below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| YEAR | 1 | 2 | 3 | 4 |
| Cash Flow | $32,000 | $30,000 | $28,000 | $28,000 |

Based on these projections, what is the IRR for the investor?

|  |  |
| --- | --- |
| a. | 6.45% |
| b. | 7.15% |
| c. | 7.88% |
| d. | 8.40% |
| e. | 8.73% |

37. In the above problem, the investor can reinvest cash flows at a 15% discount rate. What is the MIRR for the investor?

|  |  |
| --- | --- |
| a. | 9.58% |
| b. | 9.93% |
| c. | 10.02% |
| d. | 10.40% |
| e. | 11.37% |

***Use the following information to answer questions 38-41:***

*A firm has estimated cash flows for three possible four-year projects. The cash flows are shown below:*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| YEAR | 0 | 1 | 2 | 3 | 4 |
| Project A Cash Flows | -$40 | $12 | $12 | $12 | $12 |
| Project B Cash Flows | -$50 | $17 | $17 | $17 | $17 |
| Project C Cash Flows | -$35 | $12 | $12 | $12 | $12 |

38. If the cost of capital is 12%, what is the NPV for project A?

|  |  |
| --- | --- |
| a. | -$1.12 |
| b. | -$1.96 |
| c. | -$2.05 |
| d. | -$3.55 |
| e. | $1.63 |

39. Suppose that the projects are contingent and the cost of capital is 12%. What is your decision?

|  |  |
| --- | --- |
| a. | Accept project B only |
| b. | Accept projects B and C only |
| c. | Accept projects A, B, and C |
| d. | Reject projects A, B, C |
| e. | Accept project C |

40. Suppose that the projects are mutually exclusive and the cost of capital is 12%. What is your decision?

|  |  |
| --- | --- |
| a. | Accept project B only |
| b. | Accept projects B and C only |
| c. | Accept projects A, B, and C |
| d. | Reject projects A, B, C |
| e. | Accept project C |

41. What is the highest cost of capital allowed in order to select project B?

|  |  |
| --- | --- |
| a. | 7.71% |
| b. | 11.82% |
| c. | 12.55% |
| d. | 13.54% |
| e. | 13.89% |

***Use the following information to answer questions 42-44:***

*An analyst has collected data concerning the firm, New Day Incorporated.*

|  |  |
| --- | --- |
| New Day Average Return Over Last 5 years | 8% |
| New Day Return for Last Year | 6% |
| New Day Standard Deviation | 36% |
| Correlation Between New Day and the S&P 500 | 0.60 |
| YTM on 90-day T-Bill | 2.50% |
| Historical Risk Premium Between S&P 500 and Treasury Bill | 6.00% |
| S&P 500 Standard Deviation | 20% |

42. What is the beta for New Day?

|  |  |
| --- | --- |
| a. | 0.840 |
| b. | 0.900 |
| c. | 0.925 |
| d. | 1.080 |
| e. | 1.200 |

43. New Day currently trades at $40.00 per share. The company will pay a $2.00 dividend each of the next two years. Given our results, what price should New Day trade for in two years if it earns its required return over the next two years?

|  |  |
| --- | --- |
| a. | $42.41 |
| b. | $43.07 |
| c. | $43.33 |
| d. | $43.94 |
| e. | $44.18 |

44. Suppose that the Federal Reserve Bank decides to increase interest rates. (i.e. increase the risk free rate). Which statement regarding New Day is most correct?

|  |  |
| --- | --- |
| a. | The beta for New Day will likely increase. |
| b. | The market portfolio risk premium will increase. |
| c. | The correlation between New Day and the market portfolio will decrease. |
| d. | The current stock price of New Day will likely decline. |
| e. | None of the statements above are correct. |

***Consider the following information for problem #45:***

Jimmy Conway Incorporated has released the following income statement for 2015. (year 0 on your timeline)

|  |  |
| --- | --- |
|   | 2015 |
| Net Income | $10,000,000  |
| # of Shares | 4,000,000  |
| Dividend Payout | 20% |

Going forward, the firm expects net income to grow by 20% per year for 2016 and 2017. After 2017, the firm expects earnings to grow by 5% per year indefinitely. For 2016 and 2017, the firm will maintain the same dividend payout ratio. After 2017, the firm will increase the dividend payout ratio to 50%. The firm has a cost of equity of 12%, and will not issue any additional shares of common stock. Based on these assumptions, what is an estimate for the intrinsic stock value of the firm’s stock?

|  |  |
| --- | --- |
| a. | $17.26 |
| b. | $18.11 |
| c. | $20.12 |
| d. | $21.58 |
| e. | $22.63 |

46. A stock currently trades for $50 per share. After careful study of the firm’s financials and outlook, you believe that the stock will trade for $55 in exactly one year. The stock will also pay a $1 per share dividend in one year. The current risk free rate in the economy is 2%, while the market portfolio risk premium is 5.50%. If your predicted price and dividend is fair based on the systematic risk of the stock, what must its beta be?

|  |  |
| --- | --- |
| a. | 1.00 |
| b. | 1.09 |
| c. | 1.27 |
| d. | 1.45 |
| e. | 1.82 |
|  |  |

47. Suppose that Toys R You is considering a move from the Atlanta Highway over to the Epps Bridge Shopping Center. A consultant has been hired by the firm to assess the NPV of the move. The consultant has modeled a five year time frame with three possible outcomes. Below, he has presented the yearly cash flows for three possible cases: GOOD SALES, AVERAGE SALES, AND BAD SALES. It will cost $4 million to move the store. (all cash flows in millions)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| Good | $3.00  | $3.00  | $3.00  | $3.00  | $3.00  |
| Average | $2.00  | $2.00  | $2.00  | $2.00  | $2.00  |
| Bad | $1.00  | $1.00  | $1.00  | $1.00  | $1.00  |

The analyst estimates that the probability of good sales is 45%, average sales is 40%, and bad sales is 15%. If the cost of capital is 9% for Toys R You, find the expected NPV of this project in millions.

|  |  |
| --- | --- |
| a. | $3.20 million |
| b. | $4.36 million |
| c. | $4.75 million |
| d. | $4.95 million |
| e. | $5.34 million |

48. A consulting firm is considering a set of projects for the upcoming fiscal year. The firm would like to pursue all projects, but is constrained by the number of consultants available for new projects. The firm has 100 consultants that can be used for new projects. The estimated NPV and consultants used for each project is shown below:

|  |  |  |
| --- | --- | --- |
| PROJECT | NPV | Consultants Used |
| A | $800  | 40 |
| B | $600  | 25 |
| C | $350  | 15 |
| D | $1,000  | 60 |
| E | $800  | 30 |

Which projects should the firm select to maximize shareholder value?

|  |  |
| --- | --- |
| a. | Projects A,B, and C |
| b. | Projects A and D |
| c. | Projects A, C, and E |
| d. | Projects B, C, and D |
| e. | Projects A, B, and E |

***Consider the following information for questions 49 and 50:***

An investor creates a portfolio with the following stocks:

|  |  |  |
| --- | --- | --- |
| STOCK | $ Invested | Beta |
| Apple | $20,000  | 1.2 |
| Boeing | $15,000  | 1.4 |
| Caterpillar | $30,000  | 0.8 |
| Daimler-Chrysler | $25,000  | 1.35 |

The current yield to maturity on a 90-day T-bill is 2%, while the market portfolio risk premium is estimated at 5.50%.

49. What is the required return for the investor to hold this portfolio? (based on risk)

|  |  |
| --- | --- |
| a. | 7.56% |
| b. | 7.79% |
| c. | 8.02% |
| d. | 8.28% |
| e. | 8.68% |

50. The investor would like to get the portfolio beta to the same value as the market portfolio. To accomplish this, he will invest in the 90-day T-bill and add it to the portfolio. How much should he invest in the T-bill to reach his portfolio beta goal?

|  |  |
| --- | --- |
| a. | $11,250 |
| b. | $12,750 |
| c. | $13,300 |
| d. | $13,750 |
| e. | $14,250 |

51. (EXTRA CREDIT) In class, we discussed evaluating individual stocks. Dr. Pope mentioned that while we think of people as risk-averse, there are always exceptions. What example did he use to describe behavior that was not risk-averse?

|  |  |
| --- | --- |
| a. | His wife went sky diving early in their relationship. |
| b. | The Englishman who went to Vegas and gambled his savings on roulette. |
| c. | Novice climbers try to scale mountain peaks that are beyond their skill level. |
| d. | The derivatives trader bribed individuals who could set the LIBOR. |
| e. | Anyone who cheers for Georgia Tech engages in risk-loving behavior. |