* Chapter 6 of *Financial Management: Theory & Practice*  
  - Problems 2, 10, 13, 14
* Chapter 25 of *Financial Management: Theory & Practice*  
  - Problem 3

2. Required Rate of Return

AA Industries stock has a beta of 0.8. The risk-free rate is 4% and the expected return on the market is 12%. What is the required rate of return on AA’s stock?

10. Portfolio Required Return

Suppose you manage a $4 million fund that consists of four stocks with the following investments:

**Stock Investment Beta\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

A $ 400,000 1.50

B 600,000 -0.50

C 1,000,000 1.25

D 2,000,000 0.75

If the market’s required rate of return is 14% and the risk-free rate is 6%, what is the fund’s required rate of return?

13. Historical Realized Rates of Return

You are considering an investment in either individual stocks or a portfolio of stocks. The two stocks you are researching, stock A and B, have the following historical returns:

**Year rA rB\_\_\_\_\_\_\_\_\_**

2009 -20.00% -5.00%

2010 42.00% 15.00%

2011 20.00% -13.00%

2012 -8.00% 50.00%

2013 25.00% 12.00%

a. Calculate the average rate of return for each stock during the 5-year period.

b. Suppose you had held a portfolio consisting of 50% of Stock A and 50% of Stock B. What would have been the realized rate of return on the portfolio in each year? What would have been the average return o the portfolio during this period?

c. Calculate the standard deviation of returns for each stock and for the portfolio.

d. If you are a risk-averse investor, then, assuming these are your only choices, would you prefer to hold Stock A, Stock B, or the portfolio? Why?

14. Historical Returns: Expected and Required Rates of Return

You have observed the following returns over time:

**Year Stock X Stock Y Market\_\_\_\_\_**

2009 14% 13% 12%

2010 19 7 10

2011 -16 -5 -12

2012 3 1 1

2013 20 11 15

Assume that the risk-free rate is 6% and the market risk premium is 5%.

1. What are the betas of Stocks X and Y?
2. What are the required rates of return on Stock X and Y?
3. What is the required rate of return on a portfolio consisting of 80% of Stock X and 20% of Stock Y?

3. Two-Asset Portfolio

Stock A has an expected return of 12% and a standard deviation of 40%. Stock B has an expected return of 18% and a standard deviation of 60%. The correlation coefficient between Stock A and B is 0.2. What are the expected return and standard deviation of a portfolio invested 30% in Stock A and 70% in Stock B?