

## Problem Set 6

Corporate Finance, Sections 001 and 002  
Due Thursday, March 25th

### Suggested problems:

RWJ Problems 9.2, 9.3, 9.13, 9.15, 9.19

(Use revised problems on <http://finance.wharton.upenn.edu/~jwachter/fnce100>.)

### Required problems:

1. Suppose you have 2 mutual funds whose annual returns are shown in the following table. Assume you invest \$100 in each, and the proceeds from year 1 are reinvested in year 2 and so on.
  - (a) How much money do you accumulate in each fund after 5 years?
  - (b) For each fund, calculate the single annual rate which would yield the same return over the 5-year period.

Year	Fund A	Fund B
1	.16	.30
2	.10	-.10
3	.14	.28
4	.02	.17
5	.04	-.02

2. The expected returns and standard deviation of returns for two securities are as follows:

	Security Z	Security Y
Expected Return	15%	35%
Standard Deviation	20%	40%

The correlation between the returns is + .25.

- (a) Calculate the expected return and standard deviation for the following portfolios:
  - (i) all in Z
  - (ii) .75 in Z and .25 in Y
  - (iii) .5 in Z and .5 in Y
  - (iv) .25 in Z and .75 in Y
  - (v) all in Y
- (b) Which portfolios might be chosen by an investor who likes mean and dislikes variance?