ORF435 / ORF535 / FIN535
Homework 2

Instructor: Professor John M. Mulvey

Due date: Thursday, 10/5/2017

Question 1: Utility Functions
Solve questions 2, 6, 8, and 16 in chapter 11 of "Investment Science", 2nd edition.

Question 2: Film Venture Revisited
In the film venture problem, we have the following returns for the products:

States	High Success	Moderate Success	Failure
Probability	0.3	0.4	0.3
Return: Film Venture	300%	100%	0%
Return: Risk Free	120%	120%	120%
Return: Residual Rights	600%	0%	0%

1. If the utility function is $U(x) = x - \frac{1}{20}x^2$ and the initial wealth is 1, what is the optimal portfolio?

2. Under the no-arbitrage assumptions, what is the price of the following assets? (Notice the difference between dollar value and return percentage)

States	High Success	Moderate Success	Failure
Return: Guaranteed Bet	$2	100%	100%
Return: Insurance	0%	0%	$5