1. Suppose there are two stocks in the world, A and B. The expected returns of the two stocks are eleven percent and 19 percent, with standard deviations of five percent and fifteen percent. The correlation coefficient of the two stocks is zero. What is the expected return and standard deviation of a portfolio that is 30 percent A and 70 percent B? 90 percent A and 10 percent B? Would a risk-averse investor willingly hold a portfolio that is 100 percent invested in stock A? Explain, of course.

2. The equity beta for Showy Sneakers Inc. is 1.3. It has a debt-to-equity ratio of .5. The expected return on the market is 15 percent, the risk-free rate is 7 percent, the cost of debt capital to Showy Sneakers is 8 percent, and the corporate tax rate is 34 percent. What is the required return to the equity of Showy Sneakers and what is its weighted average cost of capital? Explain, of course.
3. Suppose that at time $T$ a stock will have a value either of 54 or 44 with equal probability. What are the risk-neutral probabilities?

The safe discount rate is zero. The current price of the asset is 50. What is the value of a call on the stock with exercise price 50? What is the value of a put with the same exercise price?

Put call parity is not satisfied. Construct the riskless arbitrage that allows a trader to profit from the situation.