Homework 5

1 Suppose security $S(t)$ pays dividend δ at time τ so that $0 < \tau < T$. Find an arbitrage argument to demonstrate the put call parity equation in this case for European options expiring at time T. That is, do not use the value of the forward contract, find portfolios of options , shares and bonds to justify the price from the no-arbitrage assumptions.

2 Do the same for a security paying continuous dividends at a rate δ.

3 Do the same with continuous dividends and American options. (Here, of course, derive the put call *inequality*.)

From the book (Do not copy your answer from the back, I will not give you credit for it.)

5.3

5.4

5.15 (Draw a picture to illustrate the argument.)