Quiz B: 8/2/16   Name ___Key___

Note: Answer the following on a per-share basis.

Assume the following bid and ask prices for Amazon stock and on puts and calls on Amazon which have a strike price of $750 and which expire 175 days from today. Assume also that the risk-free interest rate equals 2%.

	Bid	Ask
Stock	758.00	758.85
Call	62.30	62.70
Put	49.55	50.00

a. Build a table that shows 1) the set of transactions today that will generate an arbitrage profit for you today, 2) your arbitrage profit today, 3) that 175 days from today, the individual payoffs from the transactions you made today add up to zero if Amazon's stock price ends up at $740 per share and 4) that 175 days from today, the individual payoffs from the transactions you made today add up to zero if Amazon's stock price ends up at $765 per share.

b. Assume Amazon's stock price ends up at $765 per share 175 days from today. For each of the transactions you take today, list the transaction (or transactions) that occurs 175 days from today that generate each of the cash flows (even zeroes) shown in your table. Be sure to list the specific transaction or transactions (buy, sell, etc.), the price at which each transaction occurs, and the location of each transaction (market, you exercise an option, the buyer of the option exercises their option, etc.). Examples: "Buy ETF in market for $10" or "Exercise option to sell ETF for $10".

$$PV(K) = \frac{750}{(1.02)^{175/365}} = 742.913$$

$$S + P = C + PV(K)$$

Buy stock + Put, Sell call, short bond = $-758.85 - 50 + 62.30 + 742.913 = -3.637$ ✗

Short stock, sell put, buy call + bond = $+758 + 49.55 - 62.70 - 742.913 = 1.937$ ✓

Trans	CFO	740	CF₁ 765	Trans
+5 Short stock	+758	-740	-765	Buy to cover stock in mkt for 765
+5 sell put	+49.55	-10	∅	Not exercised
+5 Buy call	-62.70	∅	+15	Exercise call to buy stock for 750, Sell stock in market for 765
+5 Buy bond	-742.913	+750	+750	Bond matures for $750
Total	+1.937 +4	∅	∅	