Quiz D: 03/25/13 ~~03/25/13~~   Name & Class Time _____ key _____

Notes: In solving the following I recommend setting up a table like we did in chapter 3, but this is not required. All answers should be on a per-share basis. Use a "+" for an inflow and a "-" for an outflow. I will assume an inflow if no sign is given.

Based on the following information on AT&T stock and options, 1) what set of transactions today will generate an arbitrage profit today, 2) what is your arbitrage profit today, 3) at expiration of the options, what are the cash flows on your individual positions and on your total portfolio if AT&T's stock price a) rises to $40 per share and b) falls to $30 per share, 4) what set of transactions or actions generate each of the cash flows from your individual positions at the expiration of the options if AT&T's stock price rises to $40 per share? When answering part 4) include all dollar amounts and locations for transactions.

Strike price on options = $36; Expiration of options: 6/21/13 (79 days); Risk-free interest rate = 1.2%

	Bid	Ask
Stock	37.24	37.26
Call	1.48	1.50
Put	1.29	1.31

Wall Street Journal Questions are on the back of this page.

$$PV(K) = \frac{36}{(1.012)^{79/365}} = 35.91$$

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

Arb $\Rightarrow S + P - C - PV(K) > 0 \Rightarrow 37.24 + 1.29 - 1.50 - 35.91 = +1.12 ✓$

or $-S - P + C + PV(K) > 0 \Rightarrow -37.26 - 1.31 + 1.48 + 35.91 = -1.18 ✗$

Trans	CF₀	CF	40	30
a) short stock	+37.24		-40	-30
b) sell put	+1.29		0	-6
c) buy call	-1.50		+4	0
d) buy risk-free bond	-35.91		+36	+36
Total	+1.12		0	0

4) a) buy stock for $40 in market

b) the buyer of put does not exercise

c) buy stock for $36 using call → sell for $40 in market

d) bond matures for $36