**Quiz B: 7/~~25~~27/12** Name & Time Key

There are no cash flows three months from today. This is a typo!

In answering the following question, I recommend building an arbitrage table like we did in Chapter 3. This isn't necessary but will make working the problem easier. Answer the questions on a per-share basis.

Assume that you can buy or sell Google stock for $613 per share. Assume also that you can buy or sell a call on Google with a strike price of $610 that expires in six months for $46 and a put on Google with a strike price of $610 that expires in six months for $26.75. Finally, assume that the risk-free interest rate is 1% per year. What set of transactions today would generate an arbitrage profit for you today? What profit would you earn today? What cash flows would each of your transactions create three months from today if Google's stock price ends up at $600 per share in six months? How about if Google's stock price ends up at $700 per share in six months? What are your total cash flows in six months under both cases?

$$\text{Price of bond} = \frac{610}{(1.01)^{1/2}} = 606.97$$

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

$613 + 26.75 = 46 + 606.97$

$639.75 \neq 652.97$

buy short

| Trans | $0 | $3 mo | $6 mo: $600 | $6 mo: $700 |
|---|---|---|---|---|
| +3 Buy stock | −613 | 0 | +600 | +700 |
| +3 Buy put | −26.75 | 0 | +10 | 0 |
| +3 short call | +46 | 0 | 0 | −90 |
| +3 short bond | +606.97 | 0 | −610 | −610 |
| Total | +13.22 | 0 | 0 | 0 |