Quiz A for 2:30 Class: 10/29/12 Name Key

Assume a firm has assets with a market value today of $100,000 and outstanding bonds that mature five years from today for $95,000. These bonds have a market value today of $70,000. Finally, assume you can buy or sell a call on the firm's assets for $28,000. This call expires five years from today and has a strike price of $95,000.

Note: Use a "+" for inflows and a "-" for outflows. If you do not show one or the other, I will assume you mean for the number to be "+".

a. Given this information, what set of transactions today will generate an arbitrage profit? What is your profit today from these transactions?
b. Show that the payoffs from the transactions you set up in part "a" sum to zero if the firm's assets have fallen to $85,000 when the option expires five years from today.
c. Show that the payoffs from the transactions you set up in part "a" sum to zero if the firm's assets have risen to $110,000 when the option expires five years from today.

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

Risky bond = Assets - call

$\underbrace{70{,}000}_{\text{Buy}} \neq \underbrace{100{,}000 - 28{,}000}_{\text{sell}} = 72{,}000$

Transaction	$0	$5 ($85,000)	$5 ($110,000)
+5 Buy bond	+5 -70,000	+5 +85,000	+5 +95,000
+5 Short Assets	+5 +100,000	+5 -85,000	+5 -110,000
+5 Buy Call	+5 - 28,000	+5 ∅	+5 + 15,000
Total	+5 +2000	∅ +5	∅ +5