Quiz B for 1:00 Class: 1/28/13   Name __*Key*__

Assume that you can buy or sell (or short-sell) any of the following securities:

Risk-free bonds: bonds that mature one year from today earn 1.9% per year and bonds that mature two years from today earn 2.9% per year.

Risky securities:

Security	Prices Today: Bid	Ask	Payoff one year from today if the economy is: Strong	Weak	Payoff two years from today if the economy is: Strong	Weak
Second Apple	$45	$46	$100	$0	$0	$0
Galaxy One	$84	$85	$0	$0	$200	$0
ETF	$575	$580	$400	$100	$600	$200

What set of transactions today will generate an arbitrage profit for you today. In your answer list all transactions required today and all individual and total cash flows today, a year from today, and two years from today. Use a "+" for an inflow of cash and a "-"for an outflow of cash. Note: I recommend setting up a table like is in the notes.

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

Eq. Portfolio $= 3SA + PV(100@t=1) + 2GO + PV(200@t=2)$

Price to buy $= 3 \times 46 + \dfrac{100}{1.019} + 2 \times 85 + \dfrac{200}{(1.029)^2} = 595.02$
                  $\underset{135}{} \quad \underset{98.14}{} \quad \underset{168}{} \quad \underset{188.89}{}$

Price to sell $= 3 \times 45 + \dfrac{100}{1.019} + 2 \times 84 + \dfrac{200}{(1.029)^2} = 590.02 > 580$

Trans	CF_0	$\dfrac{CF_1}{S}$	W	$\dfrac{CF_2}{S}$	W
$+2$ Buy ETF	-580^{+2}	$+400^{+2}$	$+100^{+2}$	$+600^{+2}$	$+200^{+2}$
$+2$ Short 3SA	$+135^{+2}$	$\left(-300 +2~0\right)$		$\left(0 \quad +1 \quad 0\right)$	
$+2$ Short 1-year risk-free	$+98.14^{+2}$	-100^{+2}	-100^{+2}	$\left(0 \quad +1 \quad 0\right)$	
$+2$ short 2GO	$+168^{+2}$	$\left(0 \quad +1 \quad 0\right)$		$-400^{+2}~0$	
$+2$ Short 2-year risk-free	$+188.89^{+2}$	$\left(0 \quad +1 \quad 0\right)$		-200^{+2}	-200^{+2}
Total	$+10.03^{+2}$	$\left(0 \quad +2~0\right)$		$\left(0 \quad +2~0\right)$	