Scale

73=75
71=74
66=70
64=68
62=66
61=65
59=64
57=62
51=61
45=60
39=58
38=57
35=55
31=53

Quiz B for 1:15 Class: 7/18/12 Name Key

Answer the following questions on the same graph assuming you can buy or short-sell any of the following assets. Assume also that you wish to have a standard deviation of returns of 30% in each of the questions.

Asset	Expected Return	Standard Deviation
Apple	22%	31%
Kellogg	10%	18%
T-bills	3%	0%

The correlation between Apple and Kellogg is 0.1.

On the graph:

a. If you limit yourself to only buying shares of Apple and Kellogg, show the possible portfolios you could build and identify on your graph your best portfolio and the expected return on this portfolio.

b. How would your answer in "a" change if you also allow yourself to short-sell Apple or Kellogg? Show on your graph how much better off or worse off you are.

c. How will your investment and risk change if you also allow yourself to buy or short-sell T-bills? Show on your graph how much better off or worse off you are.

d. Show whether you are better off or worse off if the return on T-bills rises before you can set everything up.

Written answer (not on the graph):

e. What transactions will be required to build your portfolio in part "a"?

f. What transactions will be required to shift from the portfolio you build in "a" to the portfolio you build in "b".

g. What transactions will be required to shift from the portfolio you build in "b" to the portfolio you build in "c"?

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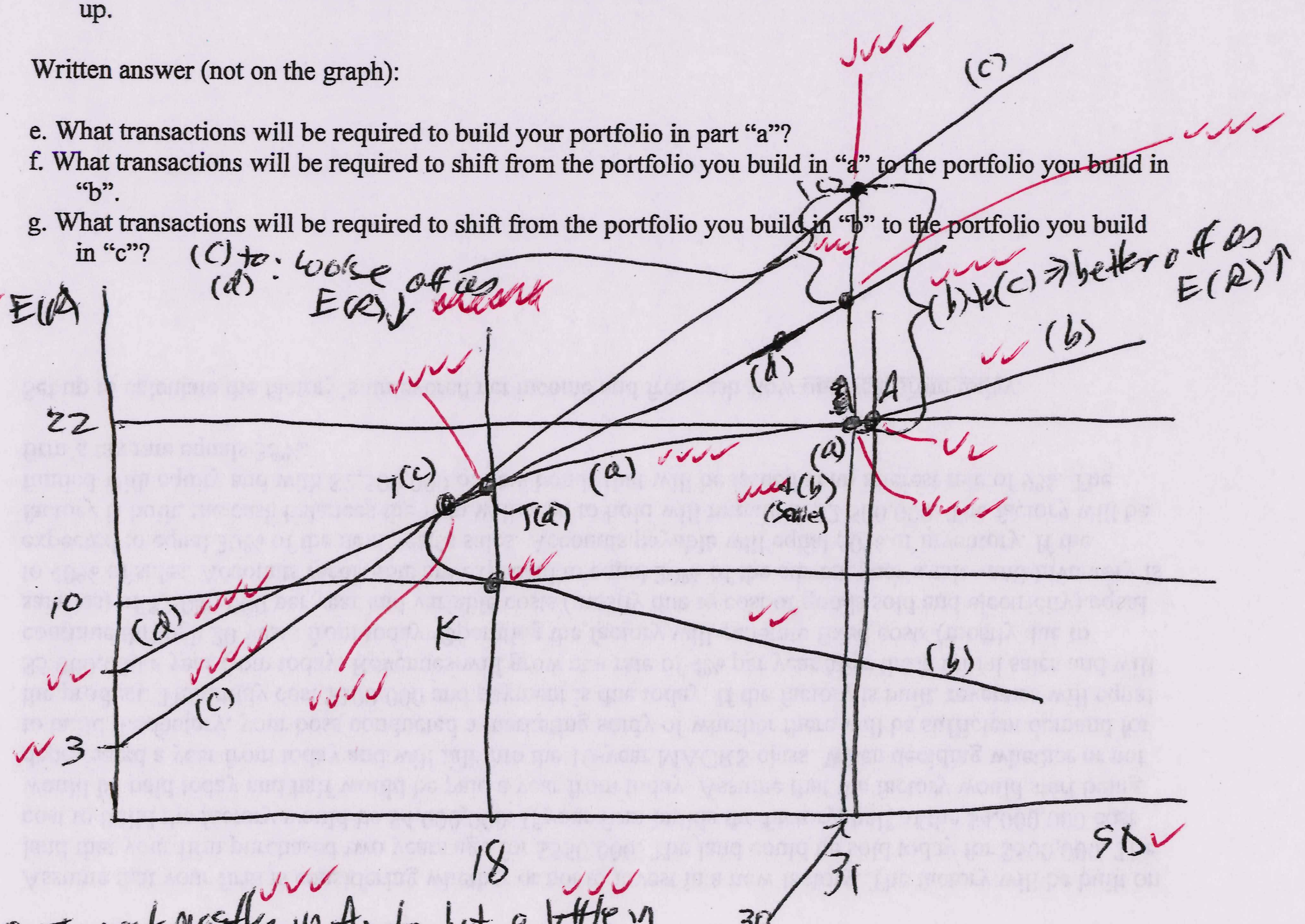

e. Invest mostly in Apple but a little in Kellogg

f. no change

g. Sell Apple & buy shares of Kellogg to shift to portfolio "T(c)" ⇒ to adjust risk, short-sell Treasuries & invest proceeds + initial wealth in portfolio "T(c)".