Spring 2012 Name:

Quiz 1: Valuation

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1. Anthony Inc. is a US entertainment software company that is considering the acquisition of Linsanity Inc., a Chinese entertainment software company. Anthony is all equity financed and has a US dollar cost of equity of 11%; the ten-year TIPs rate is 0.8%, the ten-year US Treasury bond rate is 2% and the equity risk premium for mature markets (including the US) is 6%. Assuming that the acquisition will be all equity-financed, that the expected inflation rate in China is 3% and that the additional country risk premium for China is 1.25%, estimate the Chinese RMB cost of equity that you would use in valuing this acquisition. (3 points)

2. Lorax Inc. is a Colombian publicly traded company that operates in two business – advertising and publishing – and in two countries – Colombia and the United States. The following table breaks down the revenues for the company by country and business (in millions):

	Advertising	Publishing	Total
Colombia	500	250	750
United States	100	150	250
Total	600	400	1000

- The unlevered beta is 1.20 for the advertising business and 0.80 for the publishing business and value is proportional to revenues. Lorax has no debt.
- The ten-year US treasury bond rate is 2%, the ten-year Colombian dollar denominated bond rate is 3.5% and the ten-year Colombian peso denominated bond rate is 7%; Colombia has the same local currency and foreign currency sovereign ratings.
- The standard deviation of the Colombian equity index is 32%, whereas the standard deviation in the Colombian government bond is 24%; the typical Colombian company makes 60% of its revenues in Colombia and the typical US company makes 75% of its revenues in the US.

If the equity risk premium for the US is 6%, estimate the cost of equity for Lorax Inc, in Colombian pesos. (4 points)

3. Labtech Inc. is a biotechnology firm that reported pre-tax operating income of $ 4 million and a pre-tax return on invested capital of 4% for the most recent year, based upon conventional accounting principles (which expense R&D). The firm has been in existence only 4 years and you have collected the R&D expenses for the most recent year (just ended) and the prior 3 years.

Year	R&D expense (in millions)
Most recent year	$15.00
Year -1	$12.00
Year -2	$9.00
Year -3	$6.00

Assuming that you believe that it takes, on average, five years for research to become commercially viable in this business, estimate the corrected pre-tax return on capital for Labtech. (3 points)