Key to 2:30 Quiz: 3/5/12

Quiz: Assume that markets are prefect, that the market value of MegaStore equity is $75 million, that the beta of MegaStore's equity is 1.1, and that MegaStore's equity cost of capital is 9.7%. Assume also that MegaStore has outstanding debt with a market value of $25 million of debt with a beta of 0.1 and a cost of capital of 2.3%. Finally, assume that MegaStore is thinking about issuing enough equity to repurchase all of its bonds.
a. Without doing any calculations, explain how the change will affect the beta of MegaStore's equity? Why is this the case?
b. Set up the equations and plug in as many numbers as possible to determine the beta of MegaStore's equity after the change.
c. Set up the equations and plug in as many numbers as possible to determine the cost of capital on MegaStore's equity after the change.

a. The beta of MegaStore's equity will fall as the least risky cash flows (the first ones) are no longer paid out to bondholders but will be available to stockholders.

b. $\beta_U = \left(\frac{75}{75+25}\right) 1.1 + \left(\frac{25}{75+25}\right) 0.1$

c. $r_U = \left(\frac{75}{75+25}\right) 9.7 + \left(\frac{25}{75+25}\right) 2.3$