1. (Like 15.1) Gaucho Inc. and Triton Corp. are identical in every way except for their capital structures. They have the same (random-valued) EBIT. Neither firm pays taxes. There is no possibility of financial distress. Gaucho is an all-equity firm with 100,000 shares of stock outstanding. Each share of Gaucho sells for $20. Triton Corp. uses leverage in its capital structure. Its debt has a market value of $500,000. Suppose that you can borrow or lend money at the same rate as Triton can. Then answer and explain the following.
   a. What is the value of Gaucho?
   b. What is the value of Triton and why? What is the value of the equity of Triton?
   c. Suppose that an investor is thinking of buying 1 percent of Triton’s equity. Show how she can use homemade leverage to get the same cost and the same pattern of returns by buying Gaucho equity and making one other transaction.
   d. Suppose that an investor is thinking of buying 1 percent of Gaucho’s equity. Show how she can use homemade leverage to get the same cost and the same pattern of returns by buying Triton equity and making one other transaction.

2. An all-equity firm is subject to a 34 percent corporate tax rate. The firm’s initial market value is $4,000,000 and there are 200,000 shares outstanding. The firm issues $1,000,000 worth of bonds using the proceeds to repurchase its common stock. The firm is in no danger of financial distress. Personal taxes may be ignored. By the Modigliani-Miller theory, show that the new market value of the firm is $4,340,000 and the new value of the equity is $3,340,000. Explain briefly.

The equity holders require a 20 percent rate of return on the all-equity firm. The bond rate is 10 percent. What rate of return do they require on the levered firm? (Hint: Modigliani-Miller II with taxes)
3. In about 100 words, explain why the managers of a nearly bankrupt firm are likely to approve bad projects. (Please, be analytical and concise. Don’t write "They’re gambling with somebody else’s money.")

Statement for exam preparation. In 200 words (count 'em) and a few diagrams, explain the Miller model of debt and equity with personal and corporate taxes. What are the effects of a rise in the rate of taxation of capital gains?