Quiz 1: Corporate Finance

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

1. Answer true or false to each of the following statements (1/2 point each)

a. Boards with fewer directors are generally more effective at corporate governance than boards with more directors.
   
   True  False

b. Boards with more insiders are generally more effective at corporate governance than boards with fewer insiders.
   
   True  False

c. Financial markets tend to react negatively to investment announcements (R&D, new project) made by firms.
   
   True  False

d. The marginal investor in a stock is the investor who holds the most stock in the company.
   
   True  False
2. You are analyzing a regression of DePaolo Foods, a manufacturer of spaghetti and olive oil, against the S&P 500, using monthly returns over 5 years.

\[
\text{Return}_{\text{DePaolo}} = -0.10\% + 1.20 \times \text{Return}_{\text{S&P 500}} \quad R^2 = 35\%
\]

a. You do not have the riskfree rate for the five-year period. Based upon the intercept, which of the following could you draw as a conclusion? (1 point)

1. The stock did worse than expected during the period of the regression because the intercept is negative.
2. The stock did better than expected because stocks with betas greater than 1 should have negative intercepts.
3. You cannot draw a conclusion on stock price performance without knowing what the average riskfree rate was over the last 5 years.

b. Now assume that you have been asked to be market neutral (assume that the market is correctly priced today). You have computed a historical risk premium of 5.17% by looking at returns on stocks and bonds from 1928 to 2001 and an implied equity premium of 3.62% based upon the S&P 500 today. If the current treasury bill rate is 2.2% and the treasury bond rate is 4.9%, estimate the cost of equity for this firm. (2 points)
3. You are trying to estimate a beta for Delta Trucking. The regression beta over the last 5 years is 0.848, but the firm operated just in the trucking business and had an average debt to equity ratio of 10% over the period. The stock price is currently $10 per share and there are 35 million shares outstanding, and the current market value of debt is $50 million. Delta is planning on borrowing $150 million and using $100 million to buy InfoPad Software, a small software firm with no debt and a beta of 1.30. It is also planning on using the remaining $50 million to pay a dividend to its stockholders. (Tax rate is 40%)

a. Estimate the unlevered beta for Delta Trucking, based upon the regression beta and the average debt to equity ratio over the last 5 years. (1 point)

b. Estimate the new unlevered beta for Delta, if it acquires InfoPad Software. (2 points)
c. Estimate a new levered beta for Delta assuming that it goes through with its plan to buy InfoPad and buy back stock. (2 points)