Spring 2010 Name:

Quiz 3: Corporate Finance

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

1. RoadMap Enterprises is a publicly traded transportation firm with 60 million shares outstanding, trading at $50 a share and $ 1000 million in debt. The firm has $150 million in operating income (EBIT), its current cost of equity is 10% and its current rating is A (with a default spread of 2% over the riskfree rate). The current riskfree rate is 4%, the marginal tax rate is 40% and the equity risk premium is 5%.

   a. Estimate the current cost of capital for the firm. (1 point)

   b. Now assume that the firm is considering tripling its dollar debt and buying back stock. If this action will lower the bond rating to B and increase the default spread to 6%, estimate the interest expenses at the new debt level and the tax rate to use to compute the after-tax cost of debt. (1 point)

c. If the firm does triple its dollar debt and buys back stock, estimate the new cost of capital for the firm. (2 points)

2. RoadMap is modeling its increase debt/buyback strategy on Luminos Inc., another firm in the same sector. Luminos was an all equity funded firm with 150 million shares outstanding trading at $ 20 a share, a cost of equity of 9% and expected growth rate forever of 3%. The firm borrowed $ 2 billion and bought back shares at $22 apiece. <u>Assuming investors are rational</u>, estimate the cost of capital for Luminos after the transaction. (3 points)

3. Tyrell Enterprises is a transportation firm that has two bond issues outstanding – a 6-year zero coupon bond with a market value of $ 1 billion and a 18-year zero coupon bond with a market value of $ 2 billion; the market value of equity is $ 2 billion. The firm has a manufacturing division with an estimated value of $ 4 billion and duration of 15 years and a financial service division, which accounts for the rest of the firm's current market value. Assuming that the duration of the firm's businesses is equal to the duration of its debt currently, estimate the duration of the financial service division. (3 points)