Spring 2015 Name:

Quiz 2: Valuation

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

1. You are valuing GeneTech, a very young biotechnology firm, with no revenues. The company has a blockbuster drug working its way through the pipeline and if it is approved (approximately 5 years from now), it expects to generate $1 billion in after-tax cash flows from the drug every year for the following 15 years. The cost of capital of small pharmaceutical companies is 10% and there is only a 60% chance that the drug will be approved. GeneTech has very little cash, no debt and 100 million shares outstanding. Estimate the value per share today, assuming that the blockbuster drug is its only potential product. (2 points)

2. You have just completed an intrinsic valuation (discounting FCFF at the cost of capital) of the operating assets of Magna Inc., a battery manufacturer, and arrived at a value of $500 million. You have a few loose ends that you have to take into account:

- Cash balance: The current cash balance is $50 million. The company historically has earned roughly its cost of capital on investments.
- Debt and other liabilities: There are two liabilities on the balance sheet: accounts payable of $25 million (which you included in your working capital computation for cash flows) and interest bearing debt of $100 million (in market value terms).
- Lawsuit: The company is the target of a lawsuit. The lawyers assess a 25% chance that you will lose this suit and a $160 million payout if you do.
- Cross holdings: Magna owns 80% of Electra Retail, a small retail chain, and consolidates its financials (which you used in your valuation). Electra Retail is publicly traded and has 40 million shares trading at $10/share.
- Shares outstanding: There are 70 million shares outstanding as well as 5 million employee options; the average strike price on the options is $4/share, the average expiration is in 3 years and the value per option is $2).

Estimate the value of equity per share in Magna. (3 points)

3. Allwyn Housing is a construction supplies company that has been hit by the slowing down of the housing market. The company has been losing money for a while and has accumulated a net operating loss carry forward of $40 million (including the most recent year's loss). In the most recent year, the company reported EBITDA of $12.5 million on revenues of $500 million and had a depreciation charge of $40 million. Over the next 3 years, the company expects the following:

- Sales will increase 5% a year for the next 3 years
- The EBITDA margin (EBITDA/Sales) will double each year for the next 3 years.
- The company has excess capacity and will not make any capital expenditures for the next 3 years and depreciation is expected to remain $40 million each year for this period.
- The company currently has inventory of $50 million (and no other working capital). This inventory will decrease $10 million each year for the next 3 years.
- The marginal tax rate that the company will face when it has taxable income is 40%.

a. Estimate the free cash flows to the firm each year for the next 3 years. (2 points)

b. Now assume that at the end of 3 years, the company will be mature and that its operating income will grow 2% a year in perpetuity, while earning its cost of capital. If the cost of capital in stable growth is 8%, estimate the terminal value. (1.5 points)

c. Assume that the cost of capital for the next 3 years is 12%. How much value would you attach to having the NOL carry forward of $40 million? (1.5 points)