

**Quiz A for 9:45 Class: 08/09/13**

Name \_\_\_\_\_

Your firm is considering investing \$15 million in a new facility to produce Wi-Fi phones. This new facility would roughly double the size of your firm since you currently have assets with a market value of \$20 million. Your firm expects the facility to produce its first net, after-tax annual cash flow of \$3 million one year from today. Subsequent annual after-tax cash flows would shrink by 5% per year through 10 years from today. The standard deviation of returns on the new facility would equal 35% over the next two years and 25% thereafter. This is higher than the standard deviation of returns on your firm's existing assets: 21% over the next two years and 15% thereafter. If sales are lower than expected, the facility can be sold two years from today for \$7 million. The risk-free interest rate varies by maturity as follows: 1 – year = 1%, 2 – year = 1.9%, 3 – year = 2.1%, 4 – year = 2.4%, 5 – year = 2.5%.

Set up the calculations needed to determine whether the facility should be built if the cost of capital for the facility equals 12% per year. You do not need to solve anything.