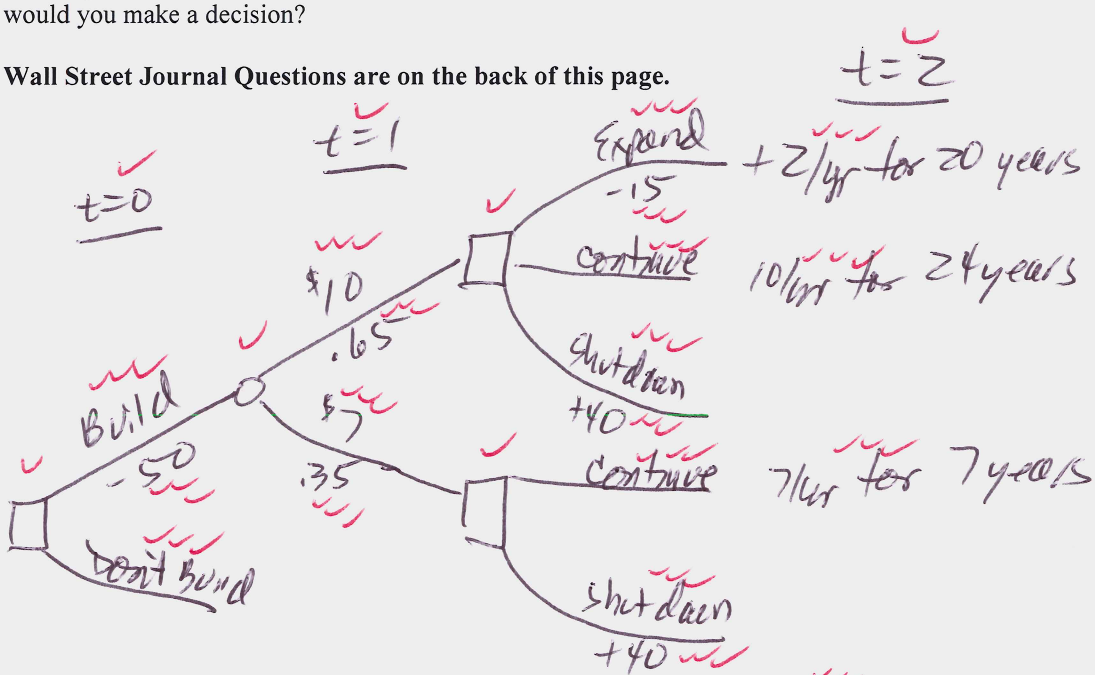
Quiz B for 2:30 Class: 11/26/12 Name Key

Bowl Bound 3 Inc. is considering whether to build a new plant today at a cost of $50 million. There is a 65% chance that the plant will generate net cash flows of $10 million per year for 25 years and a 35% chance that the factory will generate net cash flows of $7 million per year for 8 years. In both cases, net cash flows would begin a year from today. For either level of net cash flow the factory could be shut down and sold a year from today (after net cash flows for the first year are realized) for $40 million. If net cash flows equal $10 million per year, the factory could be expanded at a cost of $15 million. The expansion would produce net cash flows of $2 million per year for 20 years. Assume the cost of capital for the project and the expansion equals 8%.

a. Sketch a decision tree of this capital budgeting decision.
b. Set up the calculations needed to determine whether the factory should be expanded next year. How would you make a decision?

Wall Street Journal Questions are on the back of this page.

a.



b. $NPV(Expand) = -15 + \frac{2}{.08}\left(1-\left(\frac{1}{1.08}\right)^{20}\right)$

$-40 + \frac{10}{.08}\left(1-\left(\frac{1}{1.08}\right)^{24}\right)$

$NPV(Continue) = -40 + \frac{10}{.08}\left(1-\left(\frac{1}{1.08}\right)^{24}\right)$

Bonus = ✓✓✓
(note: bonus checks only make up for checks missed in rest of problem)

⇒ Expand if NPV(Expand) > 0 and is higher than NPV(continue)

Scale: (checks = points)

77=75
76=75
75=74
73=72
69=68
66=65
59=58
56=55
47=46