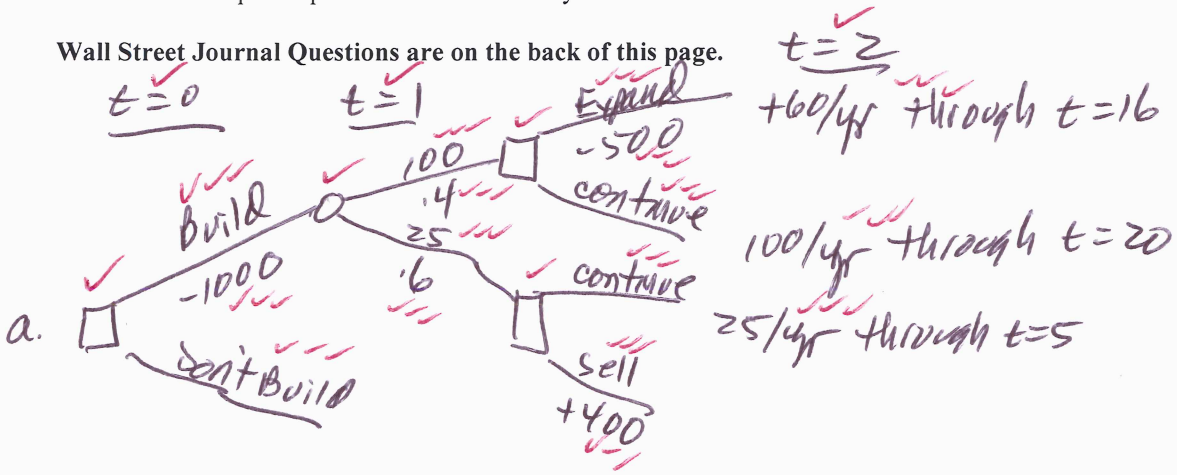
Quiz A: 04/29/13 Name & Class Time Key

Assume that Steel Glut Inc. is considering whether or not to build a new mill that would have a cost of capital of 6%. The mill would cost $1 billion to build. There is a 40% chance that steel demand will be high and a 60% chance that steel demand will be low. The mill will generate net annual cash flows of $100 million per year through 20 years from today if steel demand is high, and the mill will generate net annual cash flows of $25 million per year through five years from today if steel demand is low. In either case, net cash flows would begin one year from today. If steel demand is high, Steel Glut could simply continue to operate the mill or it can expand the plant one year from today at a cost of $500 million. The expansion would be expected to produce additional net cash flows of $60 million per year through 16 years from today with the first cash additional inflow occurring two years from today. If steel demand is low, Steel Glut could continue to operate the mill or it could sell the mill for $400 million one year from today (after the first year of sales are realized).

a. Sketch a decision tree that Steel Glut would use in deciding whether to build the mill today.
b. Set up the calculations required to determine whether the mill should be sold one year from today if sales do not live up to expectations. How would you make a decision?

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

a.



b. $NPV(\text{continue}) = \frac{25}{.06}\left(1-\left(\frac{1}{1.06}\right)^{4}\right)-400$

$\Rightarrow$ continue if NPV > 0

Scale

73 = 50
72 = 49
67 = 48
66 = 47
64 = 46
63 = 44

60 = 42
57 = 40
53 = 38
49 = 37
47 = 36
44 = 34

43 = 33
6 = 20