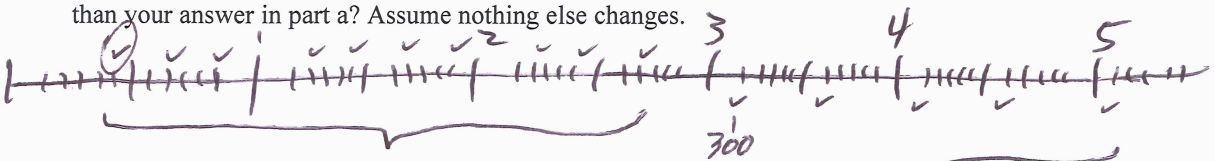
Quiz B for 11:30 Class: 7/19/13 Name Key

Note: You do not need to solve anything. Just set up all equations, plug in all the numbers, and indicate which variable you are solving for (in each equation).

Assume that five months from today you plan to make the first of several quarterly deposits into an account that pays an APR of 7.5% with monthly compounding. Each of your subsequent quarterly deposits will grow by 2% each and your final quarterly deposit will occur two years and eight months from today. From this account you plan to make semiannual withdrawals beginning three years and one month from today. Your first withdrawal will equal $300, subsequent semiannual withdrawals will shrink by 1% each, and your final withdrawal will occur five years and one month from today.

a. What is the size your first deposit?
b. If your deposits were all the same size rather than growing, would your first deposit be larger or smaller than your answer in part a? Assume nothing else changes.



+5 a. $r(\frac{1}{12}) = \frac{.075}{12}$ +2 +5 (12)

+3 $r(\frac{1}{4}) = (1 + r(\frac{1}{12}))^3 - 1$ +5 (8)

+3 $r(\frac{1}{2}) = (1 + r(\frac{1}{12}))^6 - 1$ +5 (8)

+5 $PV_{2yrs,7mo} = \left(\frac{300}{r(\frac{1}{2}) - (-.01)}\right)\left(1 - \left(\frac{1-.01}{1+r(\frac{1}{2})}\right)^5\right)$ +2 +2 +5 (14)

+5 $FV_{2yrs,8mo} = PV_{2yrs,7mo}(1 + r(\frac{1}{12}))^1 = A$ +5 (10)

+5 $FV_{2yrs,8mo} = \left(\frac{C}{r(\frac{1}{4}) - .02}\right)\left((1 + r(\frac{1}{4}))^{10} - (1.02)^{10}\right) = B$ +2 +5 (15)

+1 (=> set A = B + solve for C

b. larger +5