

Quiz B for 2:30 Class: 9/5/12

Name Key

Assume you have just deposited \$2200 in a bank account earning an interest rate of 9% per year. Nine months from today, you plan to make the first of a series of growing annual withdrawals from the account. Your first withdrawal will equal \$250 and will continue through 11 years and nine months from today.

- Set up the calculations to determine the rate at which your withdrawals can rise. Note: You do not need to solve anything. Just set up all equations, plug in all the numbers you would need to solve the equations, and indicate which variable you are solving for (in each equation).
- Assume that just before you make your deposit, you decide you want to increase the rate at which your withdrawals will grow. Will you be able to increase or must you reduce your first withdrawal. Note: A one-word answer is sufficient!
- Assume you plan to make your final withdrawal 10 years and three months from today. Will you be able to increase or must you reduce your first withdrawal (relative to your answer in b). Note: A one-word answer is sufficient!

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

a.

$r = .09$

$S = ?$

$$PV_{-3mo} = \frac{250}{.09 - g} \left(1 - \left(\frac{1+g}{1.09} \right)^{12} \right)$$
set equal
 $\$ due to g$

$$PV_{-3mo} = \frac{2200}{(1.09)^{3/12}}$$

b. Decrease +5

c. Increase +5