

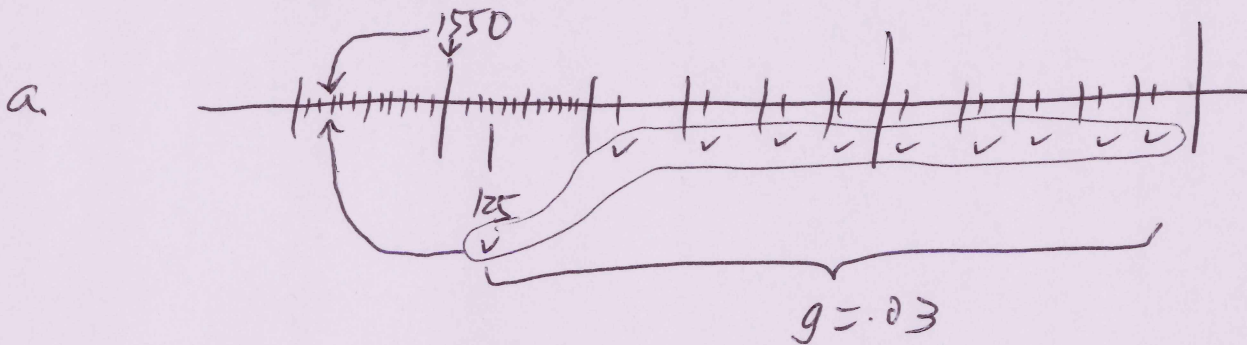
Quiz B for 4:00 Class: 9/5/12

Name Key

Assume you have just deposited \$1550 in a bank account. Three months from today, you plan to make the first of a series of annual withdrawals from the account. Your first withdrawal will equal \$125, will continue through nine years and three months from today, and will grow by 3% each.

- Set up the calculations to determine the interest rate on your account. 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, the bank reduces the interest rate on the account. 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.



$$\begin{aligned}
 & \text{+11} \quad \text{+3} \quad \text{+12} \\
 & \text{+6} \quad \text{+6} \quad \text{+10} \\
 & PV_{-ann} = \left(\frac{125}{r - .03} \right) \left(1 - \left(\frac{1.03}{1+r} \right)^{10} \right) \quad \leftarrow \text{Set equal} \\
 & \text{+11} \quad \text{+3} \quad \text{+12} \\
 & \text{+12} \\
 & PV_{-ann} = \frac{1550}{(1+r)^{12}} \quad \leftarrow \text{Solve for } r
 \end{aligned}$$

b. Reduce +5

c. Reduce +5