

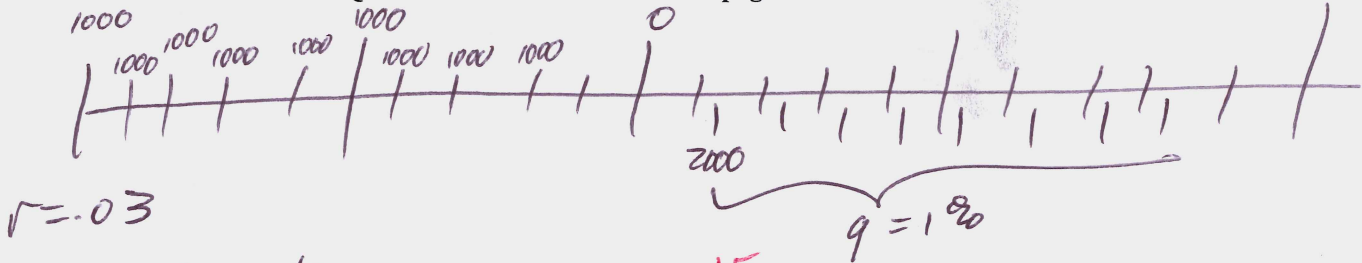
Quiz A: 1/30/13

Name Key

Note: On this quiz, 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).

Ten years ago you made the first of a series of annual deposits of \$1000 each into an account earning an interest rate of 3% per year. Your last deposit into this account was two years ago. From this account, you plan to make annual withdrawals starting one year and four months from today that will continue through eight years and four months from today (the date of your final withdrawal). Your first withdrawal will equal \$2000 and you want the withdrawals to increase by 1% per year. What additional, single deposit should you make today to fully fund your withdrawals?

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



Withdrawals

$$+3 \left(PV_{4mo} = \frac{2000}{.03 - .01} \left(1 - \left(\frac{1.01}{1.03} \right)^8 \right) \right)$$

$$+3 \left(PV_0 = PV_{4mo} \left(\frac{1}{1.03} \right)^{4.5} \right)$$

Deposits

$$+3 \left(FV_{-2yrs} = \left(\frac{1000}{.03} \right) \left((1.03)^9 - 1 \right) \right)$$

$$+3 \left(FV_0 = FV_{-2yrs} (1.03)^2 \right)$$

$$+4 \left(\text{Deposit today} = PV_0(\text{withdrawals}) - FV_0(\text{deposits}) \right)$$