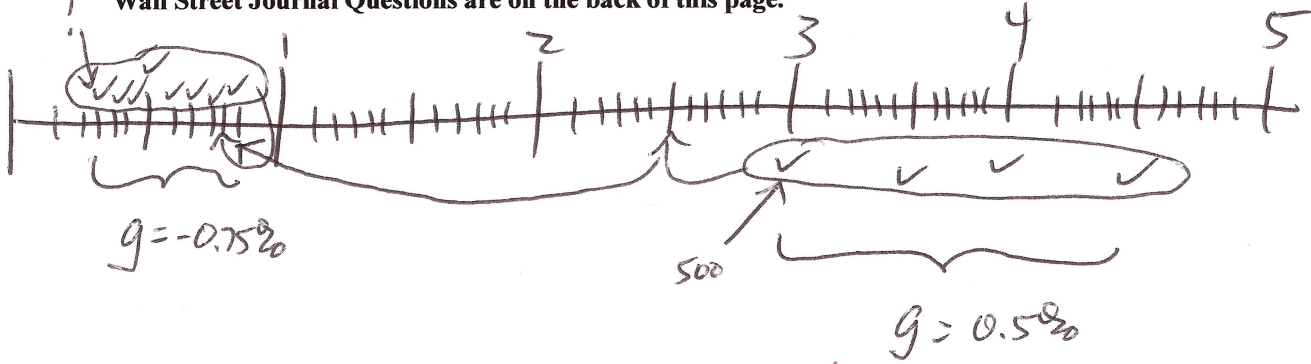Assume that three months from today you plan to make the first of a series of eight monthly deposits into an account earning an APR of 9% with monthly compounding. The deposits will shrink by 0.75% each (after the first one). Three years from today, you plan to make the first of a series of four semiannual withdrawals from the account. The first withdrawal will equal $500 and the withdrawals will grow by 0.5% each (after the first one). Set up the calculations to determine your first deposit. 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).

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

$$g = -0.75\%$$

$$500 \qquad g = 0.5\%$$

$$+4 \left(PV_{2yrs,\,6mo} = \left(\frac{\overset{+3}{500}}{\underset{+6}{r(\frac{1}{2}) - .005}} \right) \left(1 - \left(\frac{1.005}{1 + r(\frac{1}{2})} \right)^{\overset{+6}{4}} \right) \right) \quad \textcircled{19}$$

$$+4 \left(PV_{10mo} = PV_{2yrs,\,6mo} \left(\frac{1}{1 + r(\frac{1}{12})} \right)^{\overset{-9}{20}} \right) \quad \textcircled{13}$$

$$+4 \left(FV_{10mo} = \left(\frac{\overset{+6}{C} \;\sim\text{solve for}}{\underset{+6}{r(\frac{1}{12}) - (-.0075)}} \right) \left(\left(1 + r(\frac{1}{12}) \right)^{\overset{+6}{8}} - \left(1 - .0075 \right)^{8} \right) \right) \quad \textcircled{23}$$

$$+4 \left(r(\frac{1}{12}) = \frac{.09^{\overset{+3}{}}}{12^{+3}} \right) \quad \textcircled{10}$$

$$+4 \left(r(\frac{1}{2}) = \left(1 + r(\frac{1}{12}) \right)^{\overset{+6}{6}} - 1 \right) \quad \textcircled{10}$$