

Key to Quiz: 2/6/12

**Quiz:** Assume you want to withdraw \$100 per quarter from an account that pays an APR of 6.5% with monthly compounding. You first withdrawal will occur three years from today and your final withdrawal will occur four years from today. To fund this account, you plan to make a series of monthly deposits into the account. The first deposit would occur two months from today, the final deposit would occur two years from today, and each deposit would be 1% larger than the previous one. How large should you make your first deposit?

+3  $r\left(\frac{1}{12}\right) = \frac{.065}{12}$  (10)

+3  $r\left(\frac{1}{4}\right) = \left(1 + r\left(\frac{1}{12}\right)\right)^3 - 1$  (9)

+3  $PV_{2yrs, 9mo} = \left(\frac{100}{r\left(\frac{1}{4}\right)}\right) \left(1 - \left(\frac{1}{1 + r\left(\frac{1}{4}\right)}\right)^5\right)$  (11)

+3  $PV_{2yrs} = \frac{PV_{2yrs, 9mo}}{\left(1 + r\left(\frac{1}{4}\right)\right)^3}$  (9)

+3  $FV_{2yrs} = \left(\frac{C}{r\left(\frac{1}{12}\right) - .01}\right) \left(\left(1 + r\left(\frac{1}{12}\right)\right)^{23} - (1.01)^{23}\right)$  (11)

=> set equal and solve for C

**WSJ1:** What source of recent bank profits could soon dry up according to the Wall Street Journal?

- a. low rates at which banks can borrow
- b. "releasing" reserves against bad loans
- c. trading profits
- d. high interest rates on credit cards
- e. profits from selling foreclosed homes

**WSJ2:** On Friday, what plans did Caterpillar announce for its 62-year-old plant in London, Ontario, where it had locked out workers since January 1 over a contract dispute?

- a. it will reopen and expand the plant after the company and the UAW agreed to a new contract
- b. it will sell the plant to General Electric
- c. it will sell the plant to the Ontario government
- d. it will close the plant
- e. it will reopen the plant while continuing to negotiate with workers over a new contract

**WSJ3:** Bailed out by the government just three years ago, General Motors Co. is likely to report on February 16 that

- a. it will finish repaying funds it received from the U.S. government in mid-2012
- b. a record profit in 2011 of \$8 billion
- c. its 2011 sales exceeded all other manufacturers for the first time since 1998
- d. it will pay its CEO, Daniel Akerson, an expected bonus of \$125 million in 2012
- e. all of the above