1. The present value of two payments, the first payment of $500 paid at the end of \( n \) years, and the second payment of $1,000 at the end of \( 2n \) years, is $1,234.81. If \( i = 4\% \), find the value of \( n \).

2. Let \( A(t) = t^2 + 2t + 4 \). Find \( \delta(6) \).

3. Assume that \( \delta(t) = \frac{1}{9(1 + t)^3} \) and \( A(0) = 100 \). Find the amount of interest earned in the fifth year.

4. Certificates of deposit (CDs) are short- to medium-term investment instruments issued by banks which provides a fixed rate of interest for a period of time. CDs offer stability in interest earned but have penalty for early withdrawal.

   A 1-year CD pays a nominal rate of interest of 8.5% compounded quarterly. You are offered two options of penalty for early withdrawal:

   (a) loss of 3-month interest;
   (b) a reduction in the nominal rate of interest to 6%.

   If you wish to withdraw after 9 months, which option would you choose?

5. Let the effective rate of interest be 4.4%. Find the accumulated value of an annuity which pays $750

   (a) annually for 8 years,
   (b) biennially (once every two years) for 8 years,
   (c) semiannually for 4 years,

   assuming the payments are due at the end of every payment period.