Directions: Please answer the following questions and make sure your answer are legible. If you don’t show work and/or I can’t follow it, I won’t give partial credit. You may use a calculator (not the calculator function on other technology) and the Formula Sheet that I provide you, nothing else. Good Luck.

1. (7 points) For each of the following indicate:
   - If it is an annuity or not an annuity
   - For those that are annuities:
     indicate if the large sum of money is a Present Value or Future Value and
     indicate if it is an Ordinary Annuity or Annuity Due.

   (a) Three years ago the Dauntless Corporation opened an account and immediately deposited $2,000. They continued depositing $2,000 every quarter into this account, and today the account is worth $26,231.93.
      
      \[ \text{Annuity: Future V, Ann Due} \]

   (b) The Candor Corporation is trying to save money for a big project in four years. They open an account today, and each quarter will deposit their excess profits into the account. They are hoping to have $50,000 at the end of 4 years.
      
      \[ \text{Not Annuity} \]

   (c) Today the Erudite Corporation needed to borrow $150,000 for improvements to their headquarters. To repay the loan they will make monthly payments of $2,735 for the next 5 years.
      
      \[ \text{Annuity, Present V, Ord Annuity (Ord Ann)} \]

2. (2 points) Calculate \( s_{32|0.04} \) with \( n = 32 \) and \( i = 0.04 \). (In other words, calculate \( s_{32|0.04} \))

   \[
   s_{32|0.04} = \frac{(1 + 0.04)^{32} - 1}{0.04} = 62,701.46867
   \]

You’re not done yet.
3. You deposit $85.50 monthly into an account paying 6.35% for 15 years.

   (a) (1 point) Find \( n \).
   (b) (1 point) Find \( i \).
   (c) (3 points) Find the future value annuity factor.
   (d) (1 point) Find the future value of the annuity.

\[ n = 15 \times 12 = 180 \quad (\text{a}) \]
\[ i = 0.0635/12 \quad (\text{b}) \]
\[ S_{\overline{n|}} = \frac{(1 + 0.0635/12)^{180} - 1}{0.0635/12} = 299.6561459 \quad (\text{c}) \]
\[ FV = PMT \times S_{\overline{n|}} \]
\[ FV = 85.50 + (\quad ) \]
\[ FV = 25,620.60 \]