Directions: Please answer the following questions and make sure your answer is 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. (8 points) Jason’s Uncle loaned him $37,500 to start a landscaping business. They agreed that Jason would pay off the entire loan plus 3.5% annually compounded interest in 3 years, and that in the meantime he would make monthly deposits into a bank account to make sure that he has the amount needed when the loan comes due. The bank account pays 3%.
   (a) Find the total amount Jason will need to repay the loan.
   (b) How much should each of his monthly deposits be?

\[ FV = PV (1 + i)^n \]

\[ FV = 37,500 (1 + .035)^3 \]

\[ FV = 41,576.92 \]

\[ FV = 41,576.92 \]

\[ PMT = \frac{FV - PV}{(1 + i)^n - 1} \]

\[ PMT = 41,576.92 \]

\[ PMT = 1105.16 \]

If you got the question perfect you get a bonus pt.
2. (7 points) Jerome took out a $60,000 small business loan with an interest rate of 7.1% and a term of 5 years. Assuming Jerome will make quarterly payments to repay the loan:

(a) What will Jerome's quarterly payments be?
(b) How much will Jerome spend in interest?
(c) **Bonus:** (1 pt) If Jerome make his first payment immediately, how much will quarterly payment be?

\[
\begin{align*}
PV &= PMT \times \frac{1 - \left(1 + \frac{r}{m}\right)^{-nm}}{\frac{r}{m}} \\
PV &= 60,000 \\
PMT &= ? \\
n &= 5 \times 4 = 20 \\
r &= 0.07/4 \\
\frac{1 + \frac{r}{m}}{\frac{r}{m}} &= \frac{1 + 0.07/4}{0.07/4} \\
&= 16.7121024 \\
\text{so} \\
PMT &= \frac{60,000}{16.7121024} \\
PMT &= 3,590.21256...
\end{align*}
\]

\[
\text{a) Quarterly PMT = 3,590.21}
\]

\[
\text{b) } P = T \times (PMT) \\
20 \times (3,590.21) - 60,000 \\
71,804.20 - 60,000 \\
\]