1. Andrew borrows 8,000. He agrees to repay the loan with payments of 4500 at the end of 3 years and 5000 at the end of 6 years.

Determine the annual effective interest rate on Andrew’s loan.
2. John deposits 50,000 into a fund. At the end of 7 months, John has 60,000 and withdraws 18,000 to buy a new car. At the end of 10 months, the account is worth 40,000. At that point, John deposits 23,000 into the account. At the end of 2 years from John’s original investment, he has 68,000.

Calculate John’s annual time weighted return.
3. Millie has the choice of making the following two investments:

   a. Deposit money in Starr Bank. If Millie deposited her money in Starr Bank, she estimates that her money would double in 12 years using the Rule of 72.

   b. Loan money to Elijah. If she loans money to Elijah, Millie will earn an annual effective interest rate that is 1% higher than the interest rate being paid by Starr Bank.

Millie decides to loan 10,000 to Elijah. Elijah agrees to repay the loan with three payments of $P$. The payments will be at the end years 4, 5 and 6.

Determine $P$. 