

Section 2.1 Additional Problems

1. Bob deposits $\$X$ at the end of each year for 20 years into an account earning an effective annual rate of 4%. At the end of year 20, he transfers the accumulated amount to an account earning a nominal rate of 6% compounded monthly. He withdraws $\$500$ at the end of each month from the account for 15 years. Find the amount $\$X$ that makes this possible (so that he has $\$0$ remaining at the end of 35 (the 20 plus the 15) years).
2. A loan of $\$20,000$ is being repaid with 15 annual payments, with the first payment occurring at the end of the first year. The first 10 payments are $\$X$ and the last 5 payments are $\$X + 500$. If the effective annual interest rate is 4%, what is X ?