ENGR 301/R

Annual Cash Flow Analysis - Practice Questions

Solve the following problems using annual cash flow analysis

1. Suppose you wanted to buy a $100,000 house. You have $20,000 cash to use as the down payment. The bank offers to loan you the remainder at 6% nominal interest. The term of the loan is 20 years. Compute your monthly loan payment assuming the payment is the same for all months.

2. Lester Peabody decides to install a fuel storage system for his farm that will save him an estimated 6.5 cents/gallon on his fuel cost. He uses an estimated 20,000 gallons/year on his farm. Initial cost of the system is $10,000 and the annual maintenance is a uniform gradient amount of $25. After a period of 10 years the estimated salvage is $3,000. If money is worth 12%, is it a wise investment?

3. What uniform annual payment for 12 years is equivalent to receiving all of these:

$3,000	at the end of each year for 12 years
20,000	today
4,000	at the end of 6 years
800	at the end of each year forever
10,000	at the end of 15 years

Use an 8% interest rate.

4. A machine, with a first cost of $20,000, is expected to save $1,500 in the first year of operation and the savings should increase by $200 every year until (and including) the ninth year, thereafter the savings will decrease by $150 until (and including) the 16th year. Using equivalent annual worth, is this machine economical? Assume a minimum attractive rate of return of 10%.