1. How long will it take to pay off a credit card balance of $6000 with a 16.8% interest rate if you make monthly payments of $150?

2. A couple wants to have $100,000 to pay for their newborn child's college education 18 years from now. How much do they need to invest in their 6.9% money market account each quarter in order to achieve their goal?

3. If you deposit $100 twice a month in your bank account that earns 4.2% interest, how long will it take to accumulate a million dollars?

4. A couple borrows $150,000 to buy a $170,000 house. They take out a 30-year mortgage with a fixed-rate of 5.4%.
   a. What will be their monthly payment on the mortgage?
   b. If the couple lives in the house for the next 30 years, how much in total will they end up paying for the mortgage?
   c. After 5 years, the couple decides to sell the house and move into a larger house. How much do they still owe on the mortgage?
   d. How much equity does the couple have in the house after living there 5 years if the value of the house has depreciated by 4% each year?

5. A home owner finances a new luxury car using a "home equity" loan so that she can deduct the interest each year when calculating her taxable income. She borrows $30,000 at 6.36% and will pay it back over the next 4 years.
   a. How much will her monthly payments be?
   b. After one year, how much will she still owe on the loan?
   c. How much will she pay in interest (in dollars) during the first year of the loan?

6. The local Moose Lodge wants to set up a scholarship fund that awards one $1000 scholarship each year for the next 20 years.
   a. How much money do they need now to establish the fund if the fund earns 6.4% annually?
   b. The Lodge is able to raise $12,000 for the fund. As a result, they decide to award the scholarship each year as long as there is enough money in the fund. How many years will they be able to award the scholarship?
   c. How much money will still be in the fund after the last $1000 scholarship is awarded?
   d. If the Lodge had wanted to award the scholarship indefinitely, how much money would they have needed to establish the fund?
ANSWERS:

1. 5 years

2. $711.03

3. 70 years

4. 
   a. $842.30
   b. $303,226.63
   c. $138,505.96
   d. $107.40

5. 
   a. $709.51
   b. $23,197.83
   c. $1,711.99

6. 
   a. $11,106.57
   b. 23 years
   c. $525.40
   d. $15625