Homework 3b: ***Quantities and Rates***

1. You buy exercise equipment for your home for $700 at an APR of 8%. Interest is compounded monthly. Compute your monthly payments and the interest you will pay when you finish paying for the equipment. What is the APY?

2. Repeat the problem in question (1) when the payments are made twice a month. What conclusion might you draw from this?

3. Do some research to find out the difference between paying the total price of a camping tent upfront and paying for it over 12 months. Report the monthly payment, APR, APY, and the total cost of interest over the 12 months.

4. You decide to start a new company providing mortgages to new home buyers. You target low-income neighborhoods to help as many people as possible with their payments. You charge a fixed low interest rate of 1% on a 30-year plan. Interest is not compounded. Show the monthly payment. How is this different from the case where interest is compounded?

5. You decide to start a new company providing mortgages to new home buyers. You target low-income neighborhoods to help as many people as possible with their payments. You charge a fixed low interest rate of 1% on a 30-year plan. Interest is not compounded. Show the monthly payment. How is this different from the case where interest is compounded?

6. Create a Python program that queries the user to provide amount borrowed in $, then an APR value, and then a payment period, computes the monthly payment for a 36-month loan, and prints the results to the screen. Test the program using $10,000 borrowed and an APR of 6%.

Guidelines:

- Do not define any functions (we will get to those later).
- Document your program.
- The output format should be typical for monetary amounts; e.g., $2028.91.