

## Amortized Loans

Math 165  
Spring 2009

In this project, you and your partner will use the excel spreadsheet named Loan Amortization to explore the differences in loans that are at different interest rates and for different terms (i.e lengths).

Download the Loan Amortization Excel file from the course webpage  
<http://www.math.pacificu.edu/~boardman>

Use this spreadsheet for each of the following questions.

- 1) Suppose you wish to purchase a new car. The price of the car is \$18,000. You have a down payment of \$2,000. Find the monthly payment and the total amount you end up paying for the car.
  - a. Annual Interest Rate is 1.9% and the term of the loan is
    - i. 4 years
    - ii. 5 years
    - iii. 6 years
  - b. Annual Interest Rate is 2.9% and the term of the loan is
    - i. 4 years
    - ii. 5 years
    - iii. 6 years
  - c. Annual Interest Rate is 6% and the term of the loan is
    - i. 4 years
    - ii. 5 years
    - iii. 6 years
- 2) When at a car dealership to purchase a car, the salesperson tells you that they have accepted your offer of \$21,000. You will be putting \$2000 down, so you finance the remaining \$19,000. The salesperson says he has gotten you an excellent rate of 3.9% and that your monthly payment will only be \$259.83. How long is the term of this loan offer?
- 3) You will be purchasing a home and financing a mortgage of \$300,000. Explore different payment options for this loan.
  - a. What happens to monthly payments on a 30 fixed rate loan when the interest rate increases from 4% to 5%? How about from 8% to 9%?
  - b. What is the total amount you pay for this loan if it is financed at 4% for 30 years with monthly payments? What is the amount you pay if the term is only 15 years?
  - c. What is the total amount you pay for this loan if it is financed at 5% for 30 years? For 15 years?

Answer each question carefully and fully in a Microsoft word document. Be sure to include both partners' names. Print the final report and hand it in by Monday May 4.