

## Math 1050 Mortgage Project

Name Brad Baird

Due date: \_\_\_\_\_

In this project we will examine a home loan or mortgage. Find a home for sale in the area with a picture and price (attach this to your project). Let's assume you are going to pay the asking price.

**Down Payment:** You are going to make a 10% down payment on the house. Determine the amount of your down payment and the balance to finance.

Down Payment \$59,840

Mortgage Amount \$538,560

### Part I: 30 year Mortgage

**Monthly Payment:** Calculate the monthly payment for a 30 year loan (rounding up to the nearest cent) by using the following formula. **Show your work.** [PMT is the monthly loan payment,  $P$  is the mortgage amount,  $r$  is the annual percent rate for the loan *in decimal*, and  $Y$  is the number of years to pay off the loan.] For the 30 year loan use an annual interest rate of

$$PMT = \frac{P \left(\frac{r}{12}\right)}{1 - \left(1 + \frac{r}{12}\right)^{-12Y}} \quad 4.975\%$$

Show work here

$$PMT = \frac{538,560 \left(\frac{.04975}{12}\right)}{1 - \left(1 + \frac{.04975}{12}\right)^{-12(30)}} = \frac{2232.78}{1 - (1.004145833)^{-12(30)}} = \frac{2232.78}{1 - (.7744453944)} = 2882.88$$

Monthly Payment for a 30 year mortgage 2882.88

Note that this monthly payment covers only the interest and the principal on the loan. It **does not** cover any insurance or taxes on the property.

**Amortization Schedule:** In order to summarize all the information regarding the amortization of a loan, construct a schedule that keeps track of the payment number, the principal paid, the interest, and the unpaid balance. A spreadsheet program is an excellent tool to develop an amortization schedule. We can use a free amortization spreadsheet on the web.

The web address is: <http://www.bretwhissel.net/amortization/amortize.html>. Enter the **amount of the loan**, i.e. the selling price minus the down payment, the **interest rate**, and the appropriate