

Assuming that you can sell the house for this amount, use the following information to calculate your gains or losses:

Selling price of your house \$299,856.76

Original down payment \$20,100

Mortgage paid over the ten years \$116,202 $968.35 * 12 = 11620.20$
10

The principal balance on your loan after ten years 147,036.48 $\frac{116,202.00}{10}$
Chart

Do you gain or lose money over the 10 years? How much? Show your amounts and summarize your results:

$$\begin{array}{r} 147036.48 \\ 116202.00 \\ + 20100.00 \\ \hline 283338.48 \end{array}$$

$$\begin{array}{r} 299856.76 \\ 283338.48 \\ \hline 16518.28 \end{array}$$

Gain of 16,518.28

Part III: 15 year Mortgage

Using the same purchase price and down payment, we will investigate a 15 year mortgage.

Monthly Payment: Calculate the monthly payment for a 15 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 15 year loan use an annual interest rate of 4.735%.

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

Show work here.

$$\frac{180,900 \left(\frac{.04735}{12} \right)}{1 - \left(1 + \frac{.04735}{12} \right)^{-180}} = \frac{713.80125}{.507912733} = 1405.70$$

Monthly Payment for a 15 year mortgage = \$1405.70