Answer on Question #85533 – Math – Financial Math

Question

Your parents are buying a house for $187,500. They have a good credit rating, are making a 20% down payment, and expect to pay $1,575/month. The interest rate for the mortgage is 4.65%. What must their realized income be before each month?

Solution

With a house value of 187,500 dollars, 20% is:

187,500 * 20% = $ 37,500 - this is the first installment.

The loan amount will be:

$ 187,500 - $ 37,500 = $ 150,000.

Monthly rate will be:

4.65% / 12 = 0.3875%

With a loan of 150,000 US dollars and a monthly rate of 0.3875%, the interest rate for the first month is:

$ 150,000 * 0.3875% = $ 581.25.

The loan repayment amount is:

$ 1,575 - $ 581.25 = $ 993.75.

At the end of the month, parents owe:

$ 150,000 - $ 993.75 = $ 149,006.25

During the second month the amount of payment, which goes to interest, is:

$ 149,006.25 * 0.3875% = $ 577.40.

And the amount that goes to the loan is:

$ 1,575 - $ 577.40 = $ 997.60.

That is, at the end of the second month they owe $ 148,008.65.

As for realized income, we recommend a monthly loan payment, not exceeding 30% of monthly income.

Thus, the realized income before each month should be

$ 1,575: 30% = $ 5,250