Madeline Riddle

4/23/2020

Math 132, Section 3

Dear Mom and Dad,

I think it is fantastic that you guys are planning on purchasing a new home! It’s a big step, but you both have been talking about it for a while now, and I think you all are ready. Well, almost ready. After doing some research I found that if you were to take a mortgage out with the bank you are currently a member of, you would owe a lot more money in interest in comparison to if you took a mortgage out with a different bank.

After doing some calculations, I found that the amount of money you would owe the bank monthly if you took out a $75,000 loan at a rate of 7.54% compounded monthly would be $526.5. If you multiply this number by the amount of times compounded over 30 years, 360, the result is the total amount you would owe, which is $189,540. If you subtract the original amount of the loan, $75,000, from this number, you find that of the $189,540 you paid, $114,540 is interest.

If you were to instead take out a mortgage of the same amount with another bank nearby that is offering a rate of 6.87% compounded monthly, I found that you would owe much less than you would for the bank you are members of. Following the same steps above, I found that the monthly payment you would owe is $492.45. After 30 years, the total amount you would have paid would be $177,282, $102,282 of this being interest. If you were to take out a mortgage with this bank instead, you would save $12,285 in interest! There is a lot you could do with the money would you save. But if you invested this into an account that offered 8% interest compounded continuously for 10 years, the future value would be $27,280.7. This is why I strongly suggest that you both consider going to another bank for your mortgage. Not only would it save you a lot of money, but you would also make some money in the process!

Appendix 