Chapter 2 Exam Review

February 24, 2018

Problem 1 - I really want to buy a roomba because my roommates won't clean the apartment floors. If I start a savings account and deposit 45 dollars into it monthly, with a compounded monthly interest rate of 7.5 percent for one year, will I have enough to afford a 550 dollar roomba?

Problem 2 - I still really want to purchase a roomba, and after a year of saving for one, I just decide to take out a loan for one. If I can afford to make 35 dollar payments each week, at a weekly compounded interest rate of 2.5 percent for a year, how much can I afford to take out now?

Problem 3 - The iRobot company has recently released a new roomba model deluxe costing 875 dollars. If how much should I deposit into a savings account that pays 5.5 percent interest compounded monthly for 8 months in order to save for this incredible piece of machinery? How much money did I earn in interest?

Problem 4 - Let's say again, I just want to take out a loan for the deluxe roomba model and pay it off over 10 months. My current interest rate on my credit card is about 10 percent, and is compounded monthly. What monthly payment can I make on this loan?

Problem 5 - I make a 4 month loan on a 1000 deluxe deluxe roomba with port and starboard attachments, with a monthly payment of 250 dollars at 6 percent interest compounded monthly. Make an amortization table for the loan. How much interest do I pay overall? What is my final monthly payment?

Problem 6 - In the future, when Amazon owns the entirety of the free market, they release a mega home roomba that you can live in. Lets say I take out a mortgage to buy this 150,000 roomba-home that lasts 30 years with a 7.7 percent interest rate.
a) - If I make a 15 percent down payment, what loan amount should I take out?
b) - With my 15 percent down payment, what will my monthly payment be?
c) - If I instead make a 10 percent down payment and add 1 point onto the loan, what amount do I need to take out? What is my monthly payment then?

Problem 7 - If I take out a 1600 loan to buy a roomba and make a payment of 80 dollars a month with an interest rate of 8 percent, how long in years and months will I be paying off this loan?

Problem 8 - If I want to accumulate 875 dollars to buy a roomba, and I save about 60 dollars a month with an interest rate of 6.2 percent, how long until I can affort a roomba?