

Math 1332: Worksheet 3

September 22, 2021

Name: _____

1. You find yourself in need of cash now, and faced with no other options you visit your local loanshark to borrow \$200. He gives you two options for your loan.
 - (a) One option is a one-time simple interest loan. He loans you the \$200, and you pay it back in 3 months with 300% APR interest. How much would you have to pay back in total?
 - (b) Another option is simple interest over time. He loans you the \$200, and you must pay it back in one year. Additionally, each month up to and including when you pay it back in one year, you must pay 90% APR interest. How much would you have to pay back in total?
 - (c) Assuming you want to minimize the amount of interest you have to pay in total, which option is better?

2. You are in a much better financial situation than you were for the previous question, and have some spare money you want to put into savings. You want to put \$3000 in savings to take out again after 10 years. The local bank offers you two options.
- (a) The first option offers you 5% APR, compounded yearly. If you choose this option, how much will you have in your account at the end of the 10 years?
 - (b) The second option offers you 4.8% APR, compounded monthly. If you choose this option, how much will you have in your account at the end of the 10 years?
 - (c) Assuming you want to maximize the amount in your account at the end of the 10 year period, which option is better?