

Name: \_\_\_\_\_

MATH 108

Fall 2022

HW 6: Due 09/27

*“The one thing that offends me the most is when I walk by a bank and see ads trying to convince people to take out second mortgages on their home so they can go on vacation. That’s approaching evil.”*

*–Jeff Bezos*

**Problem 1.** (10pt) The owner of the Lord of the Rinse laundromat chain is hoping to expand into a new part of the state. To help lease, refurbish, and stock the new locations, he takes out a loan with end of the month payments for \$1.2 million for 15 years at 6.7% yearly annual interest, compounded quarterly. Find the monthly payments for this loan.

**Problem 2.** (10pt) Gerry Atrick is buying a smaller home for retirement. Because he has not sold his current home, he takes out a 30-year, \$80,000 mortgage at 4.53% annual interest, compounded monthly and end of the month payments. If he sells his current home after 12 months, how much does he still owe on his new retirement home?

**Problem 3.** (10pt) Doris Schutt is purchasing a new home with her wife. They find a decent home in a good school district with a yard for their husky and German shepherd. The house is listed at \$269,900. A bank offers them a 30-year mortgage at 4.3% annual interest, compounded monthly and end of the month payments with a downpayment of 12%. If they take this mortgage, how much will they pay in total for the home?

**Problem 4.** (10pt) Warren Peace takes out a loan for \$15,000 at 6.2% annual interest, compounded quarterly that will be paid off over 5 years with equal end of the month payments. After making payments for two years, how much of his next payment will actually go towards paying the loan, rather than towards interest?