

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

**MATH 108**

**Spring 2022**

**Written HW 8: Due 04/11**

*“Surplus wealth is a sacred trust which its possessor is bound to administer in his lifetime for the good of the community.”*

*–Andrew Carnegie*

**Problem 1.** (10pt) Anne Morale takes out a loan for \$2,300 for 10 months that is discounted at 9.5% annual simple interest.

- (a) What is the discount for this loan?
- (b) What is the maturity? What are the proceeds?
- (c) How much interest is paid on this loan? How much is paid in total?
- (d) Find the effective annual interest rate for this loan.

**Problem 2.** (10pt) Joe King invests \$6,000 in a savings account that earns 3.7% annual interest, compounded semiannually.

- (a) How much is in the account after 5 years?
- (b) How long until the account has \$8,000?
- (c) What is the effective annual interest for the account?

**Problem 3.** (10pt) Amanda Lynn takes out a loan for \$18,000 at an annual interest rate of 6.1%, compounded continuously.

- (a) How much is owed after 3 years?
- (b) How long until the loan amount is \$20,000?
- (c) If she was going to receive \$25,000 in 3 years, what is the maximum amount she could have taken out for the loan?

**Problem 4.** (10pt) Barry D. Hatchett is going to set up a savings account for his daughter. He has two options: one account earns 4.2% annual interest, compounded monthly. The other account earns 3.8% annual interest, compounded continuously. Which account should he take? Justify your answer.