MTH 351
Half Exam 3
Fall 2020

50 points possible.

1. (10 pts.) A loan is being repaid with level annual payments of 1,600. Calculate the outstanding balance of the loan if there are 7 payments left. The next payment will be paid one year from now and the effective annual interest rate is 9%.

2. (10 pts.) For a loan with level annual payments, the principal repaid in the 15th payment is 10,968 while the principal repaid in the 16th payment is 11,292. Calculate the principal repaid in the 25th payment.

3. (10 pts.) A twenty-year 1000 par value bond pays 10% coupons semiannually. The bond is priced at 1205.22 to yield an annual nominal rate of 8% convertible semiannually. Calculate the redemption value of the bond.

4. (10 pts.) A 1000 par value two-year 6% bond with semiannual coupons is bought to yield 4% convertible semiannually. Create an amortization schedule for this transaction.

5. (10 pts.) Harmony receives payments of X at the end of each year for n years. The present value of her annuity is 533.

Gael receives payments of $4X$ at the end of each year for $2n$ years. The present value of his annuity is 3435.

Both present values are calculated at the same annual effective interest rate.

Determine v^n.