Spring Financial Functions Practice #2

1. ***RETIREMENT SAVINGS PLANNING:*** **You are twenty-eight years old and currently have no savings or debt. You plan to retire at age 70 years when you will collect social security payments. Once you retire, you plan to live another 20 years.** **1A. DETERMINE TARGET RETIREMENT INCOME: When you retire, you want annual income of $35,000 in today's dollars to supplement your social security checks. You anticipate that the overall rate of inflation will be 3% per year. Convert a current value of $35,000 in today's dollars to an inflation-adjusted value when you reach the age of 70 years?** **1B. DETERMINE TARGET RETIREMENT SAVINGS: Now consider you have reached age 70 years. How much savings is required to support the inflation-adjusted target income per year calculated in #1A for your anticipated period of retirement? Assume the account earns an annual rate of return of 6%.** **1C. DETERMINE REQUIRED ANNUAL SAVINGS: Beginning today, how much must be saved each year to attain your target retirement savings goal determined in #1B?**	**1A.** **1B.** **1C.**
2. ***FIXED BENEFIT EMPLOYEE RETIREMENT COSTS:*** **Your business is assessing the cost of its fixed benefit retirement program. A typical employee earns a salary of $75,000 per year when they retire at 64 years old, and will have worked 30 years at the company at that time. The current program pays employees 70% of their annual salary from the time they retire until they pass away. There are no cost-of-living adjustments, so the annual retirement payments do not change during the remainder of the employee's life. Actuarial tables show that the typical employee lives to the age of 87 years. The company retirement accounts earn an annual return of 7%.** **2A. How much will the employee be paid each year at retirement?** **2B. When the typical employee retires, how much must the company have saved to pay them the annual payment calculated in #2A for the remainder of their life?** **2C. How much must the company deposit every year during the employee's 30 years of employment in order to attain the savings target calculated in #2C?** **2D. To reduce employee costs, the company decides to replace its fixed benefit program with a defined contribution program. How much can the employer contribute to the typical employee's retirement account if the company wants to cut its annual employee retirement benefit costs by $2,000 per employee.** **2 BONUS: How much does the employer need to save for employees who work thirty years, but can retire at the age of 55 years because they began working at the company when they were 25 years old?**	**2A.** **2B.** **2C.** **2D.** **2 BONUS.**

3. You qualify for a home loan of $450,000 at an annual interest rate of 3.5% and a loan term of 30 years. What will be your monthly payment?	**3.**
4. Two hundred bonds with a face value of $20,000 pay $1,200 per year and mature in 12 years. How much should an investor pay for this investment if they desire a 5% annual return?	**4.**
5. You and your spouse earn $85,000 per year, and want to spend only 35% of your income on a mortgage payment. You qualify for a 15-year loan at an annual rate of 3.5%. Find how much you can borrow with these limitations.	**5.**
6. - 7. An investment is projected to earn the following net operating incomes. **Year — Net Operating Income** **1 — $60,000** **2 — $67,000** **3 — $76,000** **4 — $79,000** **At the end of the four-year holding period, the investment is sold for net proceeds of $780,000.** **6. Find the net present value of this investment if you want to earn a 9% rate of return.** **7. What is the rate of return if you pay $750,000 for this investment?**	**6.** **7.** **(Report to nearest tenth %)**

8. Provide an income statement estimating Year 4 Net Operating Income for this property.

- **14-unit apartment building with five two-bedroom units, and nine one-bedroom units.**
- **In year one, each two-bedroom unit will rent for $1,100 per month, and each one-bedroom unit will rent for $850 per month.**
- **All rents will increase 7% annually for the next four years.**
- **A laundry room generates annual income of $750 for year one. This income is expected to increase at an annual rate of 4%.**
- **Estimate vacancy and collection loss at 5% of annual gross income.**
- **Annual expenses for the first year are listed below. A review of historical trends provided the following assumptions for inflation by category.**

	Year One Expense Projection	Annual Rate of Increase
Real Estate Taxes	$10,000	2% per year
Insurance	$4,000	6% per year
Utilities	$30,000	7% per year
Maintenance	$8,000	4% per year
Reserves/Other	$4,000	4% per year

8. INCOME STATEMENT Year Four

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One Bedroom Units ______________________

Two Bedroom Units ______________________

Total ______________________

Vacancy & Collection Loss ______________________

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Real Estate Taxes ______________________

Insurance ______________________

Utilities ______________________

Maintenance ______________________

Other/Reserves ______________________

Total ______________________

______________________________ ______________________