FALL FINAL Financial Functions Practice Test #B

1. You are twenty-five years old and currently have no savings or debt. You plan to retire at age 70 years. If you start to save $3,000 per year at age 25, how much will have been saved at retirement? Assume you will earn a 6.5% return on your savings.	**1.**
2. Your client has been offered two options for the settlement of a dispute with his insurance company. You must help him to choose the option with the highest present value. **Option One: $35,000 per year for 20 years** **Option Two: $500,000 paid in one lump sum in 6 years.** **Assume an annual rate of return of 5.0%.** **2A. Find the Present Value of Option One.** **2B. Find the Present Value of Option Two.** **2C. Which option should the client choose?**	**2A.** **2B.** **2C.**
3. You qualify for a home loan of $550,000 at an annual interest rate of 4.2% and a loan term of 15 years. What will be your monthly payment?	**3.**
4. You are currently thirty years old and have set a savings goal of $1,400,000 for when you reach 65 years old. You presently have no savings and one credit card debt of $8,000. How much must be saved each year to attain your savings goal of $1,400,000? Assume you can earn an annual return of 7.5% on your savings.	**4.**
5. Four hundred bonds with a face value of $40,000 pay $3,500 per year and mature in 14 years. How much should an investor pay for this investment if they desire a 7% annual return?	**5.**
6. Five hundred strip bonds with a face value of $50,000 mature in 20 years. How much should an investor pay for this investment if they desire a 5.8% annual return?	**6.**
7. You and your spouse earn $150,000 per year, and want to spend only 30% of your income on a mortgage payment. You qualify for a 30-year loan at an annual interest rate of 3.9%. Find how much you can borrow with these limitations.	**7.**
8. You are currently 25 years old and have set a savings goal of $1,300,000 for when you reach 70 years old. You presently have no savings or debt. How much must be saved each year to attain your savings goal of $1,300,000? Assume you can earn an annual return of 5.5% on your savings.	**8.**
9. You are 25 years old and currently have no debt. You have a savings of $15,000. You plan to retire at age 65 years. If you start to save $4,500 per year starting at age 25, how much will have been saved at retirement? Assume you will earn a 6.7% return on your savings.	**9.**

10. Provide an income statement for Year 4 given the information below.

- **16-unit apartment building with ten one-bedroom units, and six two-bedroom units.**
- **Uncertainty regarding the first year monthly rents requires us to consider the following discrete random variable distributions.**

X = One bedroom rent	$750	$800	$850
P (X)	25%	40%	35%

Y = Two bedroom rent	$1,250	$1,450
P (Y)	30%	70%

- **Rents will increase 7% each year.**
- **Estimate vacancy and collection loss at 4% of gross income.**
- **Annual expenses in year one will be $45,000, and are projected to increase at 3% annually.**

For the income statement below, consider the outcome where one-bedroom units rent for $750 per month, and two-bedroom units rent for $1,250 per month.

_____

One Bedroom Units _____

Two Bedroom Units _____

Total _____

_____ _____

_____ _____

_____ _____

_____ _____

11. – 12. In Question #10, you calculated annual net incomes for years one, two, three, and four assuming the one-bedroom units rent for $750 per month, and two-bedroom units rent for $1,250 per month. Assume the property will be sold for $1,700,000 at the end of Year Four.

11. Find the net present value of this investment if you want to earn a 9.0% annual rate of return.	**11.**
12. What is the internal rate of return if you pay $1,850,000 for this investment today? (Report to nearest tenth %)	**12.** **(Report to nearest tenth %)**
BONUS QUESTION: Using the information in question #10, find the Expected Value for this property. Summarize the value of the outcomes and the probabilities of each outcome on the back of this test. Place the expected value in the answer box to the right. **MR. NELSON WILL CHECK YOUR SPREADSHEET BEFORE YOU CLOSE EXCEL.**	**BONUS: Expected Value =**