

Time Value In-Class Exercise

1. You deposit \$1,000 in a mutual fund (a one-time deposit) that earns 8% compounded annually.
 - a. How much will you have in your account at the end of 10 years?

 - b. At the end of 40 years?

 - c. What if you had invested the \$1,000 in a savings account that earned 2% annually – how much would you have in your account after 40 years?

2. You just bought a plot of land for \$4,000/acre in hopes that it will increase in value 7% each year.
 - a. How much will the land be worth in 10 years assuming it increases in value by 7% each year?

 - b. How much will it be worth after 40 years?

- 3a. You want to have \$50,000 at the end of 10 years in order to make a down payment on your business. How much do you need to invest today (today only), earning 8% per year, to have \$50,000 in your account after 10 years?
- 3b. Similar to 3a, you want to have \$50,000 at the end of 10 years. You can invest \$4,000/year for each of the next 10 years. Your investment will earn a return of 8% per year. Will you be able to reach your goal?
4. You want to contribute \$5,000/year to an IRA (Individual Retirement Account) – investing in assets that earn about 8 percent annually. How much will you have in the IRA after 20 years? 40 years?
5. The average American family has annual living expenses (food, rent, utilities, etc.) of \$50,000 per year. Let's assume that the annual inflation rate is 3% per year. How much will it cost an average American family to have the same level of living (\$50,000/year) 50 years from now? (50 years is approximately when you will be retiring!)