IE 342 17-18 Spring Semester
Study Set 1
Please do not submit your answers as they will not be graded!!

1) Assume you have bought a Bitcoin worth of **$**8,610 now. You expect an annual increase of 20% in the first year. The future worth of the Bitcoin after three years is **$**31,240 and the annual growth rate from year 2 to year 3 is 25%. What is the annual growth rate between years 1 and 2 ?
2) You have started a Youtube channel and you invested **$**10,000 for the equipment now. For every thousand views, Youtube pays you **$**5 at the end of each month. Your first video in the first month has gone viral and received a million views. However, your second video in the second month only got 200,000 views. After your third video at the end of the third month, you aim to breakeven the invested amount. If the interest rates are 5%, 3% and 4% respectively in each month, how many views your third video should get?
3) Berke deposits 2000 TL in the first year, 600 in the second year and 500 TL in the third year to GD Aksoy Bank with an interest rate of 11.5%. Ege deposits 3000 TL in the third year to the same bank. At the end of the fifth year, Ege and Berke have the same amount of money in their accounts. What is the interest rate for Ege ?
4) You get a loan of 50,000 TL from a bank. You will pay the loan in annual equal payments for 5 years with an interest rate of 7%. What is the amount of the equal payments?
5) A 20 year old wins $100,000 from lottery and she decides to invest rest of the money after spending some into the savings account. She wants to retire at the age of 65 with a $2,000,000 savings, at 10% annual interest rate how much she should invest now?
6) How much you should deposit today in order to withdraw $3,000 2 years later, $5,000 4 years later and $20,000 5 years later if account earns 12% interest rate?
7) At a certain interest rate, a $100,000 doubles its value after 5 years. At the same interest rate what will be the amount of $15,000 in 3 years?

8) You are planning to deposit \$500 yearly for the next 4 years, starting from the 5th year until the end of 8th year you stop depositing. After 8th year you withdraw \$200 for the next 2 years. What will be the amount of money in your savings account if the interest rate is 9% at the end of 10th year? Draw the cash flow.

9) You bought 300 shares of Netflix stock at \$2700 on December 31,2011. Your intention is to keep the stock until it quadruples its value. You expect 15% annual growth for the Netflix stock, how many years at least you should hold the stocks?

10) Burak wants to buy a Moncler coat worth of 3,000 TL. He decides to make equal monthly savings to his bank account, with a monthly interest rate of 3.5%, for a year to be able to purchase the coat. How much should Burak deposit each month?