

IE 342 STUDY SET 1

FALL 2016

Do not submit your solutions as they will not be graded!

- 1) You bought 300 shares of Microsoft (MSFT) stock at \$2,600 on December 31, 2005. Your intention is to keep the stock until it doubles in value. If you expect 15% annual growth for MSFT stock, how many years do you anticipate holding onto the stock?
- 2) How much invested now at 10% would be just sufficient to provide three payments, with the first payment in the amount of \$10,000 occurring two years hence, then \$8,000 five years hence, and finally \$6,000 seven years hence?
- 3) You have borrowed \$25,000 at an interest rate of 16%. Equal payments will be made over a three-year period. The first payment will be made at the end of the first year.) What will the annual payment be, and what will the interest payment be for the second year?
- 4) At a certain interest rate compounded semiannually, \$5,000 will amount to \$20,000 after 10 years. What will be the amount at the end of 15 years?
- 5) Heinz Corporation borrowed \$9,000 from Brown Company on Jan 1, 1978 and \$12,000 on Jan 1, 1980 Heinz made a partial payment of \$7,000 on Jan 1, 1981. It was agreed that the balance of the loan would be amortized by two payments one on Jan 1, 1982 and the other on Jan. 1, 1983, the second being 50% larger than the first. What was the amount of each payment if the interest rate was 12%?
- 6) Five annual deposits in the amounts of \$6,000, \$5,500, \$5,000, \$4,500, and \$4,000, in that order, are made into a fund that pays interest at a rate of 8% compounded annually. Determine the amount in the fund immediately after the fifth deposit.
- 7) What is the equal payment series for 12 years that is equivalent to a payment series of \$25,000 at the end of first year, decreasing by \$1,200 each year over 12 years? Interest is 7% compounded annually.
- 8) Assume you borrow \$8,500 now at 1% per month for two years and must repay the loan in equal monthly payments. What are the amounts of monthly payments?
- 9) Consider the following cash flows: \$13,000 outflow at time zero, \$5,000 per year inflow in years 1 through 5, \$12,000 inflow at the end of year 8. At an interest rate of 8% per year, what will be the future equivalent amount in year 10?
- 10) Suppose that starting from next year, you are planning to deposit \$6,000 yearly in your saving account for the next 4 years. Starting from the 5th year, you are planning to withdraw \$3,000 yearly for the next 6 years. If interest rate is 9% compounded monthly, what will be the amount of money in your savings account at the end of 10th year?