



FINANCE, INFORMATION SYSTEMS, & MANAGEMENT SCIENCE FINANCE 2360 ASSIGNMENT #1

Due by 12:00PM on Friday Sept. 27, 2019

Total Marks: 47

Note: For math problems, please show all of your work in your solutions including the formulas that you use. Correct answers without showing appropriate steps worth 0 Mark.

Problem 1. (4 Marks)

What are some of the problems of using profit maximization as the goal of the firm? Please describe at least two problems.

Problem 2. (6 Marks)

In the text, the authors have broken the markets into the money market and the capital market.

- A. Define each of these markets in terms of securities that they trade and financing they provide.
- B. Toronto Stock Exchange (TSX) is a part of which of these markets.
- C. Is TSX a primary market? Please briefly explain your answer.

Problem 3 (8 marks)

Which of the following actions do not lead to agency costs and explain why?

- I. Foregoing an investment opportunity which would add to the market value of the owners' equity.
- II. Paying a dividend to each of the existing shareholders.
- III. Purchasing new equipment which increases the value of each share of stock.
- IV. Hiring outside auditors to verify the accuracy of the company financial statements.

Problem 4 (8 Marks)

Which form of business organization(s) can potentially face agency problems and which faces the greatest agency problems? Please consider each of the following business organizations and explain why they may or may not face agency problem.

- I. Sole proprietorship
- II. Partnership
- III. Corporation

Problem 5 (3 Marks)

As social beings, we engage in developing friendships. Beyond having fun with friends, at times we rely on them for support. You love your friend and would like to show appreciation for your friendship. You have \$200 dollars in a bank earning 20% return every year. How long will it take you to save enough to be able to buy a gift for your friend worth \$500? Don't round your answer. Please keep two digits after the decimal point for your computation.

Problem 6 (3 Marks)

John made an investment four years ago. Today, his investment has grown to \$20,736. If the interest rate was 20% per year, what was the amount of interest earned on interest (that is, what is the effect of compounding)?

Problem 7 (3 marks)

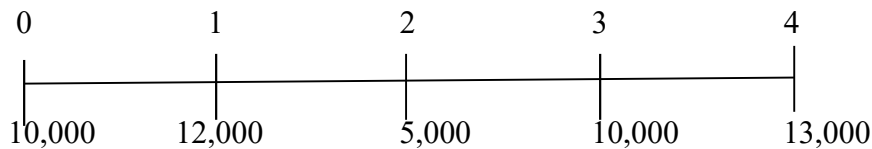
Suppose the Canadian government borrowed \$500 million. After 20 years, it had to return \$1 billion to the lender. What is the implied rate of interest or return per year that Canadian government had to pay for this loan? Please keep five digits after the decimal point for your computation.

Problem 8 (4 Marks)

Let's consider the following information.

	0	1	2	3	4
Cash Flow (end of period)	10,000	12,000	5,000	10,000	13,000
Interest Rate		2.50%	2.50%	2.50%	2.50%

Cash flows are organized as follows on the time line.



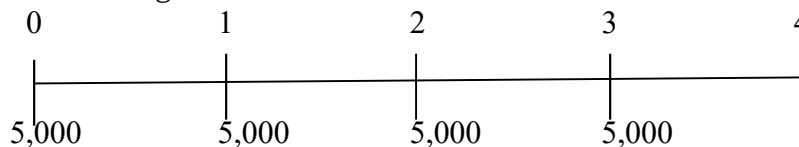
- Calculate the present value of these cash flows (at time 0).
- Calculate the future value of these cash flows (at time 4).

Problem 9 (4 Marks)

Let's consider the following information.

	0	1	2	3	4
Cash Flow - beginning of the period		5,000	5,000	5,000	5,000
Interest Rate		2.50%	2.50%	2.50%	2.50%

Cash flows are organized as follows on the time line.



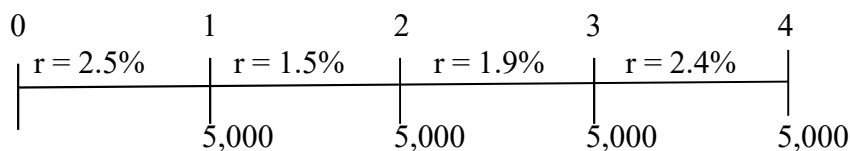
- Calculate the present value of these cash flows (at time 0).
- Calculate the future value of these cash flows (at time 4).

Problem 10 (4 marks)

Let's consider the following information.

	0	1	2	3	4
Cash Flow - end of the period		5,000	5,000	5,000	5,000
Interest Rate		2.500%	1.500%	1.900%	2.400%

Cash flows and interest rates are organized as follows on the time line.



- Calculate the present value of these cash flows (at time 0).
- Calculate the future value of these cash flows (at time 4).