

# Introduction to Financial Mathematics

## Math 30610 Homework 2

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due Wednesday 2/8 on Gradescope

Please choose 8 of the following exercises. You will only be graded on 8. Unless otherwise specified, all exercises are from the textbook. You are welcome to use any calculator, spreadsheet or programming language, as long as you explain clearly and completely your solution.

1. 1.2.17
2. 1.4.1
3. 1.4.3
4. 1.4.4
5. 1.4.5
6. 1.4.6
7. 1.4.9
8. 1.5.1 a, b
9. There are two investment opportunities. Opportunity A has you investing 1 at time 1, 2 at time 2, and 3 at time 4 into an account with fixed annual compound interest  $i$ . Opportunity B has you investing 5 at time 3 into an account with fixed annual compounding interest of 20%. What is the value of  $i$  for which the two investment opportunities yield the same balance at time 5? (Answer: 8.53%)
10. At the annual compound interest rate  $i$ , you are indifferent between receiving 5 annual payments of 1, starting 1 year from now, and receiving 2 in two years, and 3.5 in 4 years. What is  $i$ ? (Answer: 27.3%)