

**Quiz – 28 August 2019**

**Instructions.** You have 15 minutes to complete this quiz. You may use your calculator. You may not use any other materials (e.g., notes, homework, books).

Problem	Weight	Score
1	1	
2	1	
3	1	
4	1	
Total		/ 40

**Problem 1.** Find the solution to the DS

$$A_{n+1} = 2A_n - 1 \quad n = 0, 1, 2, \dots$$

by finding  $A_1$ ,  $A_2$ , and  $A_3$  and using the pattern to guess the formula for  $A_n$ .

- [Take a look at Problem 6.5 assigned for homework to see how to approach a similar problem.](#)

**Problem 2.** Find the fixed points of the DS

$$A_{n+1} = A_n^2 - 2A_n + 2 \quad n = 0, 1, 2, \dots$$

- [Take a look at Problem 6.4 assigned for homework to see how to approach a similar problem.](#)
- Be careful when applying the quadratic formula!

**Problem 3.** Suppose we have a savings account with an annual interest rate of 0.03, compounded monthly. How much should we deposit initially so that we have \$10,000 in 20 years?

- Take a look at Example 4 from Lesson 2 to see how to approach a similar problem.

**Problem 4.** Suppose we have a savings account with an annual interest rate of 0.03, compounded continuously. If our initial deposit is \$1,000, how much will we have after 10 years?

- Take a look at Lesson 2 to see how to compute continuously compounded interest.