

Math 2300 – Spring 2019
Homework 18

Solve the following recurrence relations:

Use the theorem on the handout and the SOLRRCC handout.

1. $a_k = 4a_{k-1} - 9$, $k \geq 1$, $a_0 = 1$

2. $a_k = 4a_{k-1} - 4a_{k-2} + k$, $k \geq 2$, $a_0 = 5$, $a_1 = 9$

3. $a_k = 2a_{k-1} + 3a_{k-2} + 5^k$, $k \geq 2$, $a_0 = -2$, $a_1 = 1$