

HOMEWORK #7

Problem 1. Page 175, Section 5.3 Number 6.

Problem 2. Find a closed form solution for

$$\begin{aligned}a_0 &= 6, \\a_1 &= -6, \\a_n &= 4a_{n-1} - 3a_{n-2}\end{aligned}$$

Problem 3. Find the general solution for

$$a_n = 3a_{n-1} - 5a_{n-2}.$$

Problem 4. Suppose

$$a_n = n2^n + Cn + D$$

for all n , and

$$a_n = 4a_{n-1} - 4a_{n-2} + 2n - 8$$

for $n \geq 2$. What are C and D ?

Problem 5. Find a closed form solution for the sequence defined recursively by $a_0 = 7$ and for $n \geq 1$,

$$a_n = \frac{1}{2}a_{n-1} + 3.$$