

Linear recurrences

1. Give a general form solution to the following recurrence. (Note: this means do NOT solve for constants at all.)

$$a_n = 3a_{n-1} + 10a_{n-2}$$

2. (a) The characteristic equation for a recurrence relation is $(x - 3)(x - 2)^2(x + 5) = 0$. What is the general solution for the recurrence relation?

- (b) In terms of big- Θ complexity, what is the right bound for the complexity of this recurrence?