

Homework 6, Due Thursday March 17, 2005

1. Solve each of the following recurrence relations using either iteration (expand until you see a pattern) or substitution (guess and prove by induction). Show all work. Finally, check your answer using the Master Theorem, if it is applicable.

(a) $T(n) = T(n/4) + n^2$

(b) $T(n) = T(\sqrt{n}) + 5$

(c) $T(n) = 4T(n/3) + n \log n$

2. Chapter 5, #2, page 232.
3. Chapter 5, #3, page 233.