

MATH 302 Discrete Mathematics (Spring 2012, Session 501)

Assignment 10, April 9, 2012

Reading: §8.2, 8.3

Definition: Write down the definitions of the following terms

- linear homogeneous recurrence relation
- divide-and-conquer recurrence relation, master theorem

Problems to be graded

§8.2: 2 (a,b,c,e), 4(a,c,e), 13, 21

§8.3: 21, 22

Please also do these:

Use the Master Theorem to give an asymptotic bound for the sequence $f(n)$ where $f(n)$ satisfies the following recurrences:

1. $f(n) = 4f(n/2) + n$
2. $f(n) = 4f(n/2) + n^2$
3. $f(n) = f(9n/10) + n$
4. $f(n) = 7f(n/3) + n^2 \log n$

Practice problems

§8.2: 19, 22

§8.3: 12, 13