Due: Wednesday, December 8, 2010

Name (Print)――――――――――――――――   **CSE Login** ―――――――――

Name 2 (Print)――――――――――――――――   **CSE Login** ―――――――――

Instructions Follow instructions *carefully*, failure to do so may result in points being deducted.

- This is an *optional* homework assignment and is worth only bonus points.
- The homework can be submitted on paper or via handin. Homework *neatly* formatted in LaTeX will receive a 6 points bonus. You will not receive the 6 points bonus if you work with a partner (see below).
- Clearly label each problem and submit the answers *in order*.
- Staple this cover page to the front of your assignment for easier grading.
- Late submissions *will not be accepted*.
- Show sufficient work to justify your answer(s).
- When you are asked to prove something, you must give as formal, rigorous, and complete a proof as possible. Each step in your proof must contain explanation that would allow us to understand what theorem/logic you have applied to arrive at that step.
- You are to work individually, and all work should be your own. Check partner policy below.
- The CSE academic dishonesty policy is in effect (see http://cse.unl.edu/ugrad/resources/academic_integrity.php).

Partner Policy You may work in pairs, but you must follow these guidelines:

1. You must work on *all* problems *together*. You may not simply partition the work between you.
2. You must use LaTeX and you may divide the typing duties however you wish.
3. You may not discuss problems with other groups or individuals.
4. Hand in only one hard copy with both author's name.

Problem	Page	Points	Score
7.1.4	456	8	
7.1.8 (a,b)	457	6	
7.1.14	457	12	
7.2.4 (a,b,c,d)	471	8	
7.2.24	472	12	
7.3.18	482	8	
Problem A		10	
Bonus Total		64	
Typesetting in LaTeX (bonus)		6	

Problem A Given the recurrence relation $T(n) = 3T(n/2) + 3$, and the initial condition $T(1) = 5$, draw the recurrence tree, clearly stating:

1. The root of the tree.

2. The first three levels of the tree.

3. The last level of the tree.

4. The height of the tree.

5. The size of each (sub)problem at each of the above levels.

6. The non-recursive cost at each of the above levels.