Today Solving recurrences; §§ 4.{3,4,5}.
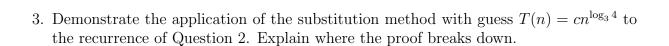**Next class** Elementary Graph Algorithms. §§ 22.*.

1. Write your name below.

2. Demonstrate the *recursion tree* method on the recurrence $T(n) = 4T(n/3) + 5n$.

3. Demonstrate the application of the substitution method with guess $T(n) = cn^{\log_3 4}$ to the recurrence of Question 2. Explain where the proof breaks down.

4. Modify the guess of Question 3 to allow the use of the substitution method to prove that $T(n) = O(n^{\log_3 4})$.

5. Prove the result of Question 4 using the *master method*.