Review 4-1

1. Show that the solution of $T(n) = 2T(\lfloor n/2 \rfloor) + n$is $O(n \lg n)$ by the substitution method. (Show the inductive step only.)

2. Use a recursion tree to determine a good asymptotic upper bound on the recurrence $T(n) = 3T(\lfloor n/4 \rfloor) + \theta(n^2)$.