

CSCI 503B: HOMEWORK 2

Each question has equal weight. Solve the recurrences. Show your work clearly and explicitly. You can use any of the techniques that we saw in class. If you need to deal with any arithmetic/geometric series, properties of exponents, etc, you can use the basics given in your textbook (or drop me a line).

1. $T(n) = 4T(n/2) + n^2$
2. $T(n) = 16T(n/4) + n$
3. $T(n) = 6T(n/3) + n^2 \log n$
4. $T(n) = 3T(n/4) + n \log n$
5. $T(n) = 4T(n/2) + n \log n$
6. $T(n) = 2T(n/2) + n \log n$
7. $T(n) = 3T(n/2) + n$
8. $T(n) = T(n-1) + 2^n, (T(1) = 3)$