

Math 135: Discrete Mathematics, Fall 2010

Worksheet 9

1. Give asymptotic bounds for the following recurrences, using either recursion trees, summations, or Master theorem. Assume reasonable constant base cases of size $O(1)$.

(a) $A(n) = A(n/2) + n$

(b) $B(n) = 2B(n/3) + 4$

(c) $C(n) = 5C(n/5) + 6n$

(d) $D(n) = D(n/5) + D(2n/5) + 1$