2)a) 5^i nodes $n/2^i$ cost per node

cost per level = $(5/2)^i n$ height = $\log_5 n$

$W(n) = 5W(n/2) + n$ $\sum_{i=0}^{\log_5 n} (\frac{5}{2})^i n = O(n^{\log_2 5})$

b) $W(n) = 2W(n-1) + 1$

height =

??

c) $W(n) = 9W(\frac{n}{3}) + n^2$

9^i nodes cost per level = $9^i \cdot \frac{n^2}{9^i} = n^2$

$n^2/9^i$ cost per node height = $\log_3 n$ $\sum_{i=0}^{\log_3 n} n^2 = O(n^2 \log_3)$

Comparing algorithm A & C (not sure about b),

C is faster for most values (if not all ? of n), so C has a faster runtime & is my choice