1. Solve the following recurrences using a recursion tree:

   (a) Solve $T(n) = T(n/2) + n$
   (b) Solve $T(n) = 2T(n/2) + 1$
   (c) Solve $T(n) = 2T(n/2) + n$
   (d) Solve $T(n) = 2T(n/2) + n^2$
   (e) Solve $T(n) = 4T(n/2) + n^2$

2. Solve the following recurrences using the Master Method:

   (a) Solve $T(n) = T(n/2) + n$
   (b) Solve $T(n) = 2T(n/2) + 1$
   (c) Solve $T(n) = 2T(n/2) + n$
   (d) Solve $T(n) = 2T(n/2) + n^2$
   (e) Solve $T(n) = 2T(n/2) + n^3$
   (f) Solve $T(n) = 4T(n/2) + n^2$
   (g) Solve $T(n) = 4T(n/2) + n^3$
   (h) Solve $T(n) = 4T(n/4) + n$
   (i) Solve $T(n) = T(n/2) + \sqrt{n}$
   (j) Solve $T(n) = 2T(n/2) + \sqrt{n^3}$