Part 1:

T (n) = 3T (n/2) + n = θ(n^(〖log〗\_2 3))  case c

T (n) = 64T (n/8) − n^2(log n)  NA  f(n) is not positive.

T (n) = 2nT (n/2) + n^n  NA  a is not constant.

T (n) = 3T (n/3) + n/2 = θ(nlogn)  case b

T (n) = 7T (n/3) + n^2 = θ(n^2)  case a