Ex1:

O(max(1,n/m))

O(min(log(m),log(n)))

O(max(log(m),log(n)))

O(n^2 + nlogn) or O(n^2)

O((n+4*m)*logn)

O(sqrt(n))

Ex2:

Case 1: expected algorithm's complexity is O(n*q)

Case 2: expected algorithm's complexity is O(n+q)