Problem 1

Answer 1: Eating nothing gives 0 satisfaction, which is always the smallest
Answer 2: Starting at 0 causes an infinite loop

Problem 2

At most $n - 1$ calls

Problem 4

n^2 subproblems, n work in each. Total $O(n^3)$

Problem 5

Max of day $j + 1$ is equal to the max we could eat on day j. We also need to multiply by the decay factor too since we are eating it on day $j + 1$. Hence $MaxS(n, j + 1) = \beta \cdot MaxS(n, j)$

Problem 6

$\beta \cdot \sqrt{k} + maxS(n - k)$

Optional: $O(n^2)$ complexity, $O(n)$ space (only n distinct problems).