Name:

Pid: $\qquad$

1. (10 points) In the subtraction game with two piles where players may subtract 1,2 or 5 chips on their turn, identify the N - and P-positions. (Please do not forget to prove correctness of your asnwer.)
2. (10 points) Alice and Bob have several piles of chips. On each turn they can either remove 1 or 2 chips from one pile, or split a pile into two nonempty piles. Players take turns and a player that cannot make a move loses. Find the value of the Sprague-Grundy function for positions with one pile made of $n$ chips. (Please do not forget to prove correctness of your asnwer.)
