1. Let $A$ and $N$ denote “attack” and “do not attack”, and $F$ and $R$ denote “fight” and “retreat”. The following payoff functions models the situation described:

\[
(u_1(N), u_2(N)) = (1, 2) \\
(u_1(A, F), u_2(A, F)) = (0, 0) \\
(u_1(A, R), u_2(A, R)) = (2, 1).
\]

Given these payoffs, Army 2 chooses to retreat following an attack, and hence Army 1 chooses to attack in the subgame perfect equilibrium of this game. The equilibrium payoffs are $(2, 1)$. If the Army 2 did not have the option of retreat then the optimal action of Army 1 would be not to attack yielding a payoff of 2 to Army 2.

2. When $n = 1$, player 1 removes one stone and is the winner. When $n = 2$, player 1 removes two stones and is the winner. Therefore, when $n = 1, 2$, the first mover wins the game. When $n = 3$, if player removes one stone $n = 2$ subgame is reached and player 2 wins. If player 1 removes 2 stones $n = 1$ subgame is reached and player 2 wins again. Therefore, in all SPE player 2 removes 1 stone following the history in which player 1 removed 2 stone and removes 2 stones following the history in which player 1 removed 1 stone. Since in each case player 2 wins there are two SPE: (1) player 1 removes 1 stone (2) player 1 removes 2 stones. When $n = 4$, if player removes one stone the subgame $n = 3$ is reached in which player 1 is the second mover and hence player 1 wins. If she takes two stones and $n = 2$ subgame is reached in which player 2 is the first mover and he wins. Therefore, in all subgame perfect equilibria of this game player 1 takes 1 stone initially and wins. The equilibrium strategies following the removal of one stone are as in the game with $n = 3$, and those after the removal of two stones are as in the game with $n = 2$. 