This miniproject asks you think about the game of Chomp, as described in your textbook (see Example 12).

(a) Use a constructive proof that proves that there is a winning strategy for the first player if the grid has just one row of cookies, of arbitrary length.

(b) Prove that for any size grid with at least three cookies, there is a move that the first player can make that will guarantee that will guarantee that the first player will lose (with the assumption that the second player makes a good move) other than taking the entire grid of cookies all at once. (Since we will assume that the player is not suicidal, this is a move that the first player should *not* make. Such a move would be considered a mistake, and when we determine whether a player has a winning strategy, we always assume that they will make no mistakes.)

(c) Use exhaustion to prove that for a grid that has two rows and two columns the first player has a winning strategy.

(d) Prove that for a grid that has two rows and three columns that the first player has a winning strategy. (Note: You should feel free to use the results of any other part of this problem.)