This miniproject asks you to prove some results using the game of Chomp, as described in Example 12 of Section 1.7 (pages 91–92), and the Principle of *Strong* Induction.

In Strong Induction, when you wish to prove that $P(n)$ is true for all positive integers n, you prove the basis step as in regular induction. However, in the inductive step, rather than assuming that the result is true for n and using that to prove that the result is true for $n+1$, you assume that the result is true for *all* positive integers less than or equal to n, and use that to prove that the result is true for $n+1$. The idea is that instead of getting on the ladder and assuming that you can get from one rung to the next, you get on the ladder and assume that if you got to *all* of the lower rungs then you can get to the next rung on the ladder. If you wish to see a further discussion of strong induction, see the first part of Section 4.2 in your text.

Prove that in the game of Chomp that for any positive integer n there is a winning strategy for the first player if the grid of cookies has two rows and n columns. (Hint: Think about what happens if the second player leaves a rectangular grid of cookies.)