Math 218: Elementary Number Theory

Homework 2 Supplemental Problem

1. A chocolate bar consists of n squares arranged in a rectangular pattern. You split the bar into small squares, always breaking along the lines between the squares. Use induction to prove that it takes $n - 1$ breaks to split it into the n smaller squares.

   Comment: Chocolate bars are not necessarily one long line of rectangles. When $n = 6$ the bar could consist of 6 small squares in a row, or it could consist of two rows of 3 squares each.

   Here is a picture of a chocolate bar, and some physics on why they typically break at the seams: http://physics.stackexchange.com/questions/238202/why-do-chocolate-bars-usually-break-at-the-cleavages