

EXTRA CREDIT PROBLEM #1

Math 6014

Consider a 10×10 board, as in the figure below. At the beginning each square is white. We make a series of the following moves. In each move, we paint black the four squares made by the intersection of a pair of rows and a pair of columns. A move can be made if at least one of the four squares is white. What is the maximum number of moves that can be made?

Instructions: Homework rules apply, except that you may collaborate with students in the same class by submitting a joint paper. A paper with k authors will earn each author $1/k$ of the credit. Only complete solutions will be accepted. To claim credit please submit a pdf file by e-mail on or before October 8.

