1023-M1-182 **Joe DeMaio*** (jdemaio@kennesaw.edu). *A Hard Day's Knight.*

A closed knight's tour uses legal moves of the knight to visit every square on a chess board exactly once and return to its starting position. In 1991 Schwenk classified all rectangular chess boards that admit a closed knight's tour. The tour number, T(m,n), is the minimum number of squares whose removal from an m by n chessboard will allow a closed knight's tour. For m and n satisfying the conditions of Schwenk's Theorem, T(m,n)=0. In 2006 DeMaio and Hippchen computed the tour number for all rectangular boards that did not satisfy the conditions of Schwenk's Theorem. This was accomplished by inductively generating constructions for building the knight's tour with the removal of specific squares. This paper addresses the removal of a random tour number of squares and determining if the resulting board admits a closed knight's tour. Once again, constructions for building the knight's tour are provided. (Received August 21, 2006)