

1086-VN-2486 **Mary J. Riegel*** (riegelmj@mso.umt.edu). *On a Dynamic Positional Game*. Preliminary report.

Tic-Tac-Toe is a well know, often played, and frequently studied game. As the prototypical positional game, its analysis highlights many of the characteristics that one looks for in the study of positional games. Many variations to the game exist, and in this talk we will explore a dynamic version of the game played on various boards, that is, a game in which pieces are allowed to move. Possible boards we will discuss include finite affine and projective planes, matroids and classes of matroids, as well as new boards constructed from smaller boards. In particular we will discuss how to use weight functions to determine strategies for the players in our dynamic game. We will also discuss outcome classes for various types of boards. We recall that in Tic-Tac-Toe, Player 2 has a drawing strategy. That is, under optimal play the second player can prevent Player 1 from winning. For some of our classes of boards we will discuss bounds on the size of a board sufficient to ensure that Player 2 has a drawing strategy. (Received September 25, 2012)