1060-57-25   **Robert Todd*** (`rtodd@unomaha.edu`), Department of Mathematics, University of Nebraska at Omaha, Omaha, NE 68182-0243. *The W-Polynomial and the Mahler Measure of the Kauffman Bracket.*

The W-polynomial is a many variable graph polynomial. To a graph we associate a family of links whose Kauffman Bracket is an evaluation of the W-polynomial of the graph. We show that the Twist Polynomial defined by Champanerkar and Kofman is an evaluation of the W-polynomial. This leads to slight improvement on the understanding of the geometry of a families of links with bounded Mahler measure. We also use the W-polynomial to find a technique to investigate the construction of families of links for which we can prove the Mahler measure diverges. (Received February 09, 2010)