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June Huh* (huh14@illinois.edu), Mathematics department, University of Illinois, Urbana, IL 61801. *Milnor numbers of projective hypersurfaces and the chromatic polynomial of graphs.*

The chromatic polynomial of a graph G counts the number of proper colorings of G . We give an affirmative answer to the conjecture of Read and Rota-Heron-Welsh that the absolute values of the coefficients of the chromatic polynomial form a log-concave sequence. We define a sequence of numerical invariants of projective hypersurfaces analogous to the Milnor number of local analytic hypersurfaces. Then we show log-concavity of the sequence which includes the conjecture on the chromatic polynomial as a special case. As a byproduct of our approach, we obtain an analogue of Kouchnirenko's theorem relating the Milnor number with the Newton polytope; we also answer a question posed by Trung-Verma. (Received September 13, 2010)