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Calculus III and the Four-Color Theorem

Abstract for the Combinatorics and Number Theory Seminar 2001 April 5

Louis Kauffman showed that the four-color theorem is equivalent to the existence of solutions of certain equations. These equations involve the cross products of the standard three unit vectors in Euclidean 3-space. We will outline Kauffman's argument and discuss how the equations are ``parametrized'' by elements of one of Thompson's finitely presented groups. An invitation will then be given to the audience to find a simple proof of the four-color theorem.