1046-68-387 **Benjamin Rossman\*** (brossman@theory.csail.mit.edu), Room G636, The Stata Center, Cambridge, MA 02139. k-Clique Requires k/4 Variables.

Using techniques from random graph theory and circuit complexity, we prove that k/4 variables are required to define the class of ordered graphs containing a k-clique in first-order logic. (Received August 29, 2008)