1086-97-818 **John T Baldwin*** (jbaldwin@uic.edu), MSCS UIC M/C 249, 851 S. Morgan, Chicago, IL 60607, and **Andreas N Mueller**. *Geometry, the Common core, and Proof.* Preliminary report.

We will report on a workshop to be held on alternate Saturdays in the Fall of 2012 with Chicago High School Mathematics Teachers. This workshop will try to integrate a careful presentation of synthetic geometry (modeled on Euclid) with the transformational approach highlighted in the Common Core Standards. This series of workshops will study synthetic (axiomatic) geometry motivated by a concrete problem and with careful attention to motivating the axioms and definitions. We will start with the problem of dividing a line into n equal parts. Seeing that an easy construction for this task actually does what it says will take the entire workshop and require all the basic properties of congruence and parallelism. We will connect the transformational approach of the Common Core with the justification of axioms, especially congruence axioms. Participants will reflect on how these ideas interact with the Common Core standards and with their current teaching practice. (Received September 13, 2012)