1026-52-215 **Andras Bezdek*** (bezdean@auburn.edu), Department of Mathematics and Statistics, 221 Parker Hall, Auburn University, Auburn, AL 36849. *On iterative processes generating dense point sets.*

There are several results in the literature concerning iterative processes in the plane. A typical problem starts with the description of a geometric construction, which when applied to an initial point set generates larger point sets. The problem usually is to prove that repeated expansions lead to an everywhere dense point set. We refer to D. Ismailescu, who started to investigate the construction "add the circumcenters (CC) (incenters (IC), orthocenters (OC) respectively) of all nondegenerate triangles formed by existing points". In a joint paper Iorio, Ismailecsu, Radoicic and Silva solved the planar IC and the planar CC problem and stated conjectures concerning the planar OC problem. The talk outlines the solutions of the following versions:

- planar OC problem (with G. Ambrus, 2005)
- 3-dimensional IC problem (with G. Ambrus, 2006)
- hyperbolic and spherical IC problem (with T. Bisztriczky, 2006)
- iterative processes in lattices (2007). (Received February 27, 2007)