1116-VE-27 **Yeon June Kang***, yeonjunekang@gmail.com. *Triangulations via Iterated Largest Angle Bisection.*

For a given triangle $\triangle ABC$, with $\angle A \geq \angle B \geq \angle C$, the *largest angle bisection* procedure consists in constructing AD, the angle bisector of angle $\angle A$, and replacing $\triangle ABC$ by the two newly formed triangles, $\triangle ABD$ and $\triangle ACD$.

Let $\triangle_{01}$ be a given triangle. Bisect $\triangle_{01}$ into two triangles, $\triangle_{11}$ and $\triangle_{12}$. Next, bisect each $\triangle_{1i}, i = 1, 2$, forming four new triangles $\triangle_{2i}, i = 1, 2, 3, 4$. Continue in this fashion. For every nonnegative integer n, $T_n = \{\triangle_{ni} : 1 \leq i \leq 2^n\}$, so T_n is the set of 2^n triangles created after the n-th iteration.

Define m_n, the *mesh* of T_n, as the length of the longest side among the sides of all triangles in T_n. Also, let γ_n be the smallest angle among the angles of the triangles in T_n. We prove the following results:

- $\gamma_n \geq min(\gamma_0, 30°)$.
- $m_n \to 0$ as $n \to \infty$.
- Unless $\triangle_{01}$ is an isosceles right-angle triangle, the set $\bigcup_{n=0}^{\infty} T_n$ contains infinitely many triangles no two of which are similar.

(Received June 02, 2015)