1117-30-476 **John C Mayer*** (jcmayer@uab.edu). *Polygons in Laminations — Branch Points in Julia Sets.*

Laminations of the unit disk were introduced by William Thurston as a topological/combinatorial vehicle for understanding the (connected) Julia sets of polynomials, and, in particular, the parameter space of quadratic polynomials. Polygons in laminations represent branch points in the corresponding Julia set, with the number of sides of the polygon corresponding to the branch order of the point. Periodic branch points may first return to themselves with or without local rotation (that is, with nonzero rational rotation number, or, respectively, rotation number 0). A well-known result of Thurston's for quadratic Julia sets is that there can be no wandering branch points and there can be no periodic branch points that return to themeselves for the first time without rotation. Thurston proved these results using laminations. A corresponding polygon in a lamination that first returns without rotation is called an *identity return polygon*. Kiwi showed that the branch order of a point returning without rotation is limited by the degree of the polynomial. We discuss these results, more precise formulations of them, and extensions in the context of polygons in laminations corresponding to (connected) Julia sets of polynomials of degree > 2. (Received January 19, 2016)