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Jim Lawrence* (lawrence@gmu.edu), Department of Mathematical Sciences, George Mason University, 4400 University Drive, Fairfax, VA 22030-4444. *Intersections of Descending Sequences of Affinely Equivalent Polytopes.*

In 1952 Borovikov published a proof of the conjecture of Kolmogorov that the intersection of a descending sequence of simplexes in Euclidean space must be a simplex. We consider the following question, analogous to Kolmogorov's: What are the possibilities for the intersection of a descending sequence of compact convex sets, each of which is affinely equivalent to a given compact convex set? The answer to this question involves the notion of an "affine retract" and yields a generalization of the result of Borovikov. (Received September 13, 2010)