1106-VR-490 **Thomas J. Osler*** (osler@rowan.edu), Mathematics Department, Rowan University, Glassboro, NJ 08028. *A product of nested radicals for the AGM.*

The Arithmetic-Geometric mean of two positive numbers a and b (AGM(a,b)) is the common limit of two sequences generated by an iterative process. This has proven to be an important device for calculating numbers and function in recent years. In this paper we derive an infinite product representation for this AGM. The factors of this product are nested raticals resembling Vieta's famous product for pi. As an application, we develop approximate expressions for the period of a non linear pendulum. (Received August 30, 2014)