1154-39-1451 **Kevin Ahrendt*** (kahrendt@mines.edu). *Solutions to a three point boundary value problem in nabla fractional calculus.* Preliminary report.

We consider the nabla fractional difference equation $\nabla\nabla^{\nu}_{a^*}x(t) = h(t)$ with three point boundary conditions $x(a) = 0$ and $\alpha x(a+k) = x(b)$, where $a+k$ is an interior point in the domain $\mathbb{N}^b_a$. We give the Green's function for the corresponding homogeneous boundary value problem, along with several bounds on the Green's function. With these bounds, and the contraction mapping theorem, we prove the existence and uniqueness of solutions to certain nonlinear, three point boundary value problems. (Received September 15, 2019)