1106-VX-1230 **Jenna T Nguyen*** (nguyenjt@jay.washjeff.edu), 1483 Barry Drive, North Huntingdon, PA 15642, and **Jerald E Hertzog** and **Savanna R Starko**. *One Step Apart Integers.*

Inspired by the Fibonacci identity $f_{n-1} \times f_{n+1} + 1 = f_n^2$ for odd $n$, we define a relation $\sim$ on $\mathbb{N}$ by $a \sim b$ if and only if $ab + 1 = k^2$ for some $k$. $\sim$ is obviously symmetric but not reflexive nor transitive. The relation results in an undirected graph $G$ with vertex set $\mathbb{N}$ and an edge between $a$ and $b$ if $a \sim b$. We investigate the neighbor sets $N(a) = \{x \in \mathbb{N} \mid a \sim x\}$ and the upper bounds for the distance $d(a, x) = \min\{\text{length of paths from } a \text{ to } x\}$ for special $a \in \mathbb{N}$. We also look into triples $(a, b, c)$ with $a \sim b, b \sim c$, and $c \sim a$ and the resulting cycles on the graph. (Received September 11, 2014)