1096-VN-712 **Jon Woltz*** (jwoltz@students.kennesaw.edu), **Matthew Lee Force** (mforce1@students.kennesaw.edu) and **Joe DeMaio** (jdemaio@kennesaw.edu). *Dominating Sets in* $Cay(\mathbb{Z}_n, \{\pm 1, \pm 3, \pm 5, \ldots, \pm(2k-1)\})$.

The circulant graph $Cay(\mathbb{Z}_n, C)$ has as its vertex set the group elements of $\mathbb{Z}_n$ and the $i \to j$ arc exists if and only if $j - i \in C$. If C is closed under inverses then $Cay(\mathbb{Z}_n, C)$ is a graph rather than a digraph. Circulant graphs are a type of Cayley graph. The simplest possible circulant graph is the cycle graph with n vertices, $C_n = Cay(\mathbb{Z}_n, \{\pm 1\})$. It is well known that $\gamma(C_n) = \lceil \frac{n}{3} \rceil$. In 2009, Rad computed $\gamma(Cay(\mathbb{Z}_n, \{\pm 1, \pm 3\})) = \lceil \frac{n}{5} \rceil$ for $n \not\equiv 4 \pmod 5$ and $\lceil \frac{n}{5} \rceil + 1$ for $n \equiv 4 \pmod 5$. In this talk we classify $Cay(\mathbb{Z}_n, \{\pm 1, \pm 3, \pm 5, \ldots, \pm(2k-1)\})$ as either $\lceil \frac{n}{2k+1} \rceil$ or $\lceil \frac{n}{2k+1} \rceil + 1$. (Received September 09, 2013)