A Ramsey number $n = R(s, t)$ is the smallest integer such that if a graph $G$ has order $n$, then either $G$ contains a $K_s$ sub-graph or $\overline{G}$ contains a $K_t$ sub-graph. With very few Ramsey numbers known, we seek to improve upon the known lower bounds for certain Ramsey numbers of the form $R(3, t)$ and $R(4, t)$. We do this by examining the properties of Dirichlet Character Difference Graphs. A Dirichlet character $\chi_n(k)$ for a prime $p$ is equal to 1 if and only if $k$ is an $n^{th}$ residue of $p$. Dirichlet Character Difference Graphs are circulant graphs with the generators $\{k : \chi_n(k) = 1\}$. The maximum clique number of these graphs and their complements can give lower bounds to Ramsey numbers. (Received September 24, 2012)