1096-VN-32 **Marilyn Titus*** (mtitusmath@hotmail.com), 202 A Rose Garden Lane, Bentonville, AR. *Finding mono-chromatic K^3 shapes within a complete, unweighted graph with variable c-edge-coloring.* Preliminary report.

Ramsey numbers are a key concept within graph theory. The core question behind Ramsey theory is this: What is the smallest size of complete c-edge-colored graph G that will require a clique of size n? For example, what is the smallest size of graph G that will require a clique of size 3 given that each edge is labelled with one of two colors? The answer is 6 for this example. The broader question remains without a formula. Most work on this question is usually approached by setting two colors and then attempting to determine when a clique of size n of either color would be obtained. This paper explores the other direction, given a set clique size of 3, and a variable amount of colors, when is a mono-chromatic clique of size three required to occur? This paper proves a recursive formula and then uses that recursive formula to give a concrete answer to the question posed above. (Received June 02, 2013)