

1077-11-2743 **Amanda Kovacs*** (Akovacs09@lions.molloy.edu), 402 N Woodward Drive, Massapequa, NY 11758. *The n-House Problem.*

A famous problem published in the English magazine "Strand" in 1914 asked for the number of houses that has the property that the sum of the addresses below it is equal to the sum of the addresses above it. The addresses are numbered consecutively, and the total number of houses is between 50 and 500. When this problem was presented to Ramanujan by Mahalanobis, Ramanujan asked him to write down a continued fraction, which was the general solution to the problem. We extend the "house problem" by solving for two houses, where the three sums (sum of the addresses below the first house, sum of the addresses between the first and second houses, sum of the addresses above the second house) are all equal. We then look at the more generalized problem, in which the two houses are replaced with n houses. (Received September 22, 2011)