1036-20-92 **Jane Gilman*** (gilman@rutgers.edu), Mathematics Department, Rutgers University, Newark, NJ , and **Linda Keen**, Graduate Center, CUNY, NY, NY. *Informative Words and Discreteness: Palindromes.* Preliminary report.

We consider non-elementary representations of two generator free groups in $PSL(2, \mathbb{C})$, not necessarily discrete, $G = \langle A, B\rangle$. A word in A and B, $W(A, B)$, is a palindrome if it reads the same forwards and backwards. A word in a free group is *primitive* if it is part of a minimal generating set. We give two new geometric proofs of the fact that in a free group of rank two every primitive element is (up to conjugation) a palindrome or the product of two palindromes. The new geometric proofs about palindromes provide a wealth of information about the action of G in $\mathbb{H}^3$ whether or r not G is discrete. For example, **Theorem:** Let L be the common perpendicular to the axes of A and B, then (1) $W(A, B)$ is a palindrome $\Leftrightarrow$ the axis of $W(A, B)$ is orthogonal to L; (2) There is a natural map from the set of primitive words in A and B onto L; (3) If G is a discrete geometrically finite group without parabolics, then the axes of all palindromes (primitive or not) intersect L in a compact interval; (4) If the axes of all palindromes in the group intersect L in a compact interval, then G is discrete. (Received January 22, 2008)