

Math 305, Quiz 3
September 27, 2007

Name: _____

- (1) (5 pts) Write $(1\ 4\ 5)(1\ 2\ 3\ 5)(1\ 3) \in S_5$ as a single cycle or a product of disjoint cycles and then decide if this element is an even or an odd permutation.

- (2) (5 pts) Let $SL_n(\mathbb{R})$ be the subset of $GL_n(\mathbb{R})$ consisting of $n \times n$ matrices A with $\det(A) = 1$. Prove that $SL_n(\mathbb{R})$ is a subgroup of $GL_n(\mathbb{R})$.