MG 5860: Visual Group Theory (Summer 2009)
Quiz 6 (20 points)

NAME:

Instructions: Answer each of the following questions completely. If something is unclear, or if you have any questions, then please ask. Good luck!

1. (4 points each) Define each of the following families of groups.

    (a) Dihedral groups.

    (b) Symmetric groups.

    (c) Alternating groups.

2. (4 points) State Cayley's Theorem.

3. (4 points) Using the following multiplication table for S_3, find a group of permutations that Cayley's Theorem guarantees exists.

e	r	r^2	f	rf	fr
r	r^2	e	rf	fr	f
r^2	e	r	fr	f	rf
f	fr	rf	e	r^2	r
rf	f	fr	r	e	r^2
fr	rf	f	r^2	r	e