

Project #1

Math 121-H

Due Friday, September 30, 2005

Summary: You are to use symmetry to describe as efficiently as possible the pattern in an M. C. Escher drawing.

Goals:

1. To be able to spot and articulate symmetries.
2. To be able to identify basic patterns that are repeated throughout a drawing.

Instructions:

1. Choose an M. C. Escher drawing from the web site on our class web page. (I am willing to accept other symmetric drawings but will need to see them first to make sure that they are appropriate.) Pretend for the purposes of this project that the drawings extend throughout the plane.
2. Identify which portion of the drawing is being repeated.
3. Identify the symmetries being applied to the given pattern. Your list should be comprehensive in that continual application of the symmetries should yield the entire drawing. The list should be efficient in that you should not include any symmetries that can be gotten by repeated application of the others.

Sections: Your project should include the following:

- Title, name, class, etc.
- A brief introduction to the project.
- A copy of the drawing that you are examining, along with its title and year. You may indicate by pen what your fundamental region, i.e., the part of the drawing that is being repeated.
- You should describe each of the symmetries in your list as completely as possible.
- You should conclude by making a convincing argument that your list of symmetries is comprehensive, and a convincing argument that it is efficient.
- End with a citation for the web site.