MA310 – Homework #8

1. TO BE TURNED IN ON TUESDAY APRIL 28 — Answer the following questions in the handout "Symmetry Transformations". Please DO NOT turn in the entire handout—just the relevant pages (or else write your solutions on your own paper).

   (a) Problem 2.1D, page 29.

   (b) Problem 2.2D, page 31.

   (c) Problem 2.3C, page 33.

   (d) Problem 31, page 45. Use Labsheet ACE2 Exercises 31 and 33.

   (e) Problem 33, page 46. Use Labsheet ACE2 Exercises 31 and 33.

2. TO BE DONE IN CLASS ON THURSDAY APRIL 23 AND CHECKED IN CLASS ON TUESDAY APRIL 28 BUT NOT TURNED IN — For each of the patterns in the handout containing a collection of patterns (which is on the website under "Connections" near the bottom, called Art—"Wallpaper" patterns for analysis):

   (a) Draw two vectors (arrows) in TWO DIFFERENT DIRECTIONS to indicate two different translational symmetries.

   (b) Mark representative points that are centers of rotational symmetry. Label the points with one of the numbers 2,3,4,...to indicate whether the point is a center of 2-fold rotational symmetry, 3-fold rotational symmetry, 4-fold rotational symmetry, etc.

   (c) Draw representative lines of reflectional symmetry, using SOLID lines.

   (d) Draw representative lines that are lines of glide symmetry, but not reflectional symmetry, using DASHED lines.

3. TO BE EMAILED TO lee@ms.uky.edu BY FRIDAY MAY 1 — I am going to email you a course evaluation that I am asking you to email back to me by Friday, May 1. I will not read the responses until after grades have been submitted, but I will add 10 extra credit points to your homework score.