SOAR Math Course | Homework One | Winter, 2002

These homework problems are meant to expand your understanding of what goes on during class. Any you turn in will be graded and returned to you. Answers may or may not be posted on the web, depending on demand.

1. Describe the composition of

   (a) a glide reflection and a glide reflection.

   (b) a reflection and a rotation.

   It is not enough to say that the composition is (say) a rotation. You need to also explain how to find which rotation it is.

2. We have seen that rigid motions of the plane are either translations, rotations, reflections, or glide reflections. (You may assume this fact.) Can we write *any* rigid motion of the plane as a composition of some number of reflections? If so, explain how. If not, give an example to explain why it is not possible.