

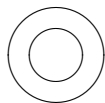
# Playsheet 11

## Geometry and Infinity

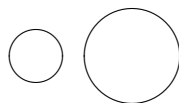
MATH 130-02  
Thursday, March 5, 2009

**Directions:** Groups should consist of three or four people. Work together on each problem; do not delegate different problems to different people. Submit one **neatly written** write-up per group. Remember to use complete sentences as appropriate and explain your reasoning. That is, **show your work!**

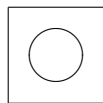
1. Describe a one-to-one correspondence between the points on the inner circle and the points on the outer circle.



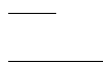
2. Describe a one-to-one correspondence between the points on the two circles. [Hint: think of it in two stages.]



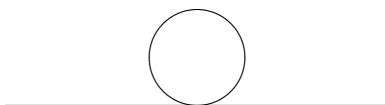
3. Describe a one-to-one correspondence between the points on the circle and the points on the square.



4. Describe a one-to-one correspondence between the points on the top line and the points on the bottom line.



5. Describe a one-to-one correspondence between the points on the circle, excluding the topmost point, and the points on the line.



6. Describe a one-to-one correspondence between the real numbers between 0 and 1 (excluding 0 and 1) and all of the real numbers. This will take some ingenuity! Think back over the other problems on this page.

(OVER)

