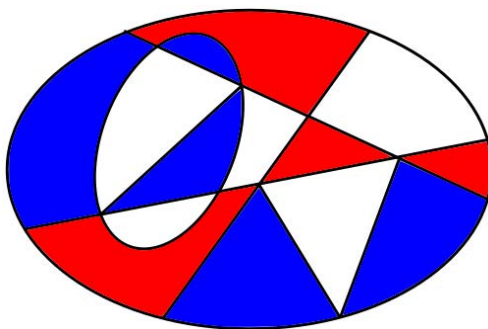


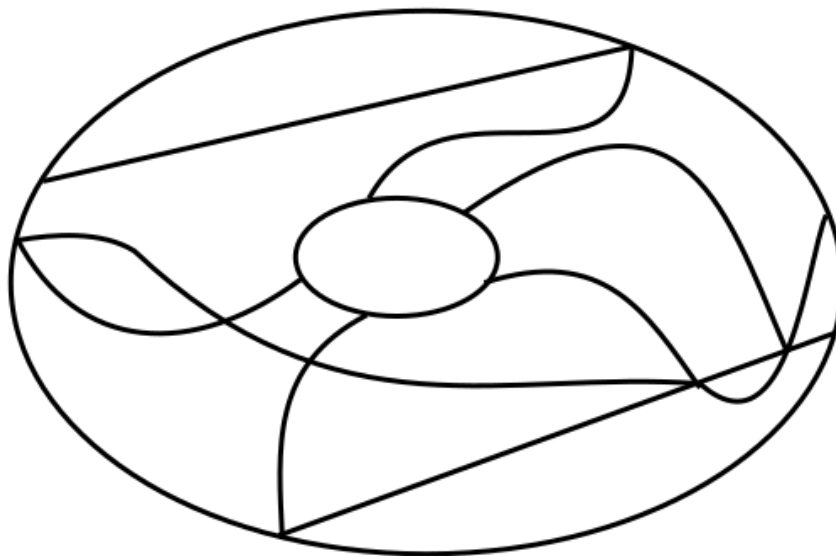
Puzzle of the Week

Map Coloring with 4 Colors

Map makers color maps so regions sharing a border have different colors. Mathematicians have shown that every map that has connected regions can be colored with four or fewer colors. In a previous puzzle, we saw that if there is a place on a map that has an odd number of lines coming out from it, then the map will need at least three colors. Here is an example of such a map.



THE CHALLENGE: Color this map using as few colors as you can.



EXPLORATION: Create the simplest map you can that requires four colors. What happens if you have a map with some “regions” made up of completely separate pieces. These multi-piece regions still must be a single color. Make a map with some multi-piece regions that needs more than four colors to color.

