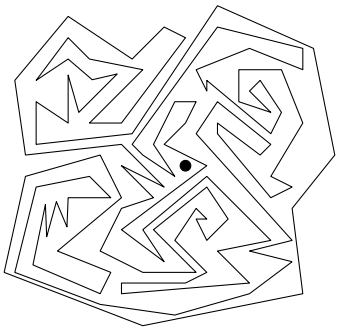
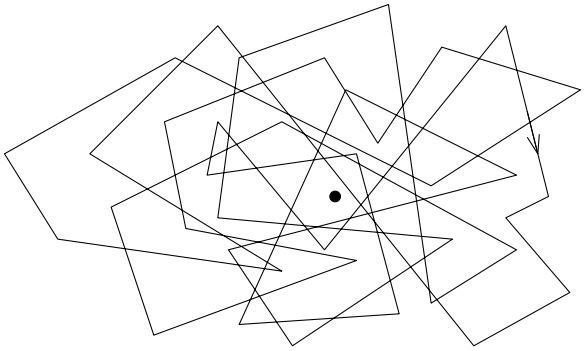
Comprehension questions

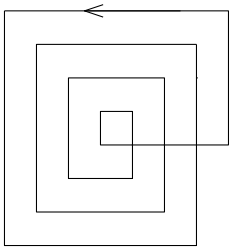
PROBLEM 4.1. *Inside or outside? (This is a polygonal loop, you do not have to check that.)*



PROBLEM 4.2. *Compute the winding number around the dot:*



PROBLEM 4.3. *Apply the removal-of-selfintersection-points strategy from the lecture, as in Example 4.7, and track how the winding numbers change at each step.*



PROBLEM 4.4. *If we have a polygonal loop with only simple selfintersections, and it has* 4 *such selfintersections, what is the biggest winding number it could have? Explain your answer, and draw an example where the winding number is the largest possible.*

18.900 Geometry and Topology in the Plane

Spring 2023