Comprehension questions

PROBLEM 3.1. *Can a polygonal loop trace out this shape:*

![Diagram](image1)

PROBLEM 3.2. *What’s the winding number of the loop we’ve drawn, around the region with the white dot? And the region with the black dot?*

![Diagram](image2)

PROBLEM 3.3. *What number does the shoelace formula give for the loop below? And geometrically, what does that number mean?*

![Diagram](image3)

PROBLEM 3.4. *Find a polygonal loop which divides the plane into three regions (including the unbounded region), and for which the shoelace formula yields 0.*