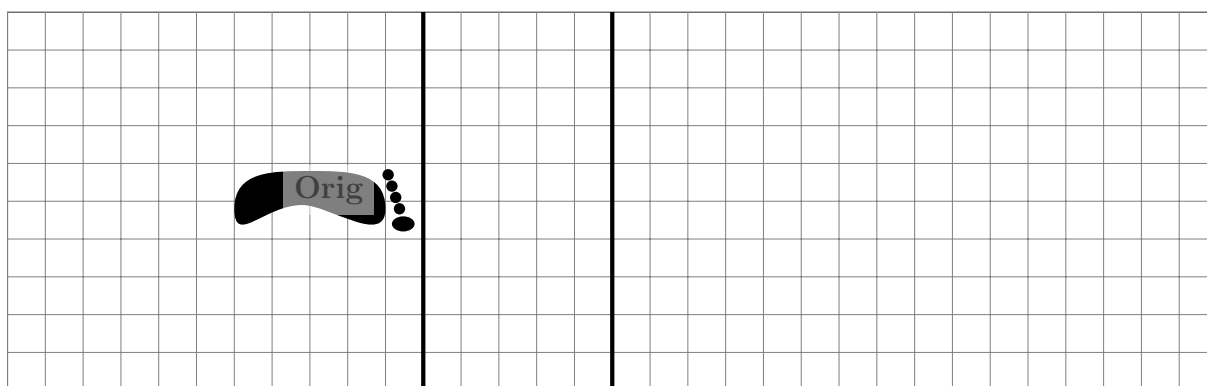


Now apply some rigid motions. We'll begin with reflections so we can use the **Miras**. The Mira works best with the light behind you, the object you want to reflect between you and the mira, and the "notched" end of the mira up and facing you. To draw the reflection, put your pencil behind the mira and draw right on top of what you see.

- (1) **Rotate your paper 90**, and then reflect the printed foot over the left vertical line using the mira.
- (2) **Turn the page so the original points the way your foot points**, and then reflect the reflection over the right vertical line.
- (3) Can you describe this double reflection as a single motion?



Now repeat the reflections, left, then right (always applying only to the last reflection). Notice how this double motion is the same single motion.

**Rotations** Now we try rotations. We'll do two "spins", that is, two half turns, but with different centers.

- (1a) Draw a box around the foot. Then rotate the box around the left point a half-turn.
- (1b) Now rotate the foot into that box as well.
- (2a) Rotate that rotated box around the right point a half-turn.
- (2b) Now rotate the rotated foot into the last box.
- (3) Describe the double-half-turn as a single motion.

