**BLM 7.SS.5.4: Exploring Transformations: UFO Pilot Training**

**Instructions**

1. Explore to discover the images that result from the translations, reflections, and rotations, and combinations of these transformations.
2. Identify applications for the transformations (e.g., to change the direction in which a figure is pointing, to make a turn, to appear instantly).
3. Find a way to predict the image or the pre-image (shape) or the transformation, given descriptions or coordinates.
4. Record your discoveries in the chart below.

Remember to do the following:

* Explore reflections in different lines (*x*-axis, *y*-axis, the line *x* or *y* = *a*, or a diagonal).
* Explore what happens when placing the lines of reflection adjacent to the image, far from the image, and inside the image.
* Explore rotations clockwise (cw) and counter-clockwise (ccw), and rotate different degrees, around different vertices, and different points inside and outside the image.

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| **Observations** | | | |
| **Transformation** | **Helpful Hints**  **for Transforming, Predicting, and Applying** | **Describing Changes in Location, or Type of Movement** | **Comments on Orientation** |
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**BLM 7.SS.5.4: Exploring Transformations: UFO Pilot Training (continued)**

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| **Observations** | | | |
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