Artifact 3 – Reflections

Driving Question: How can any reflection be written as an algebraic rule?

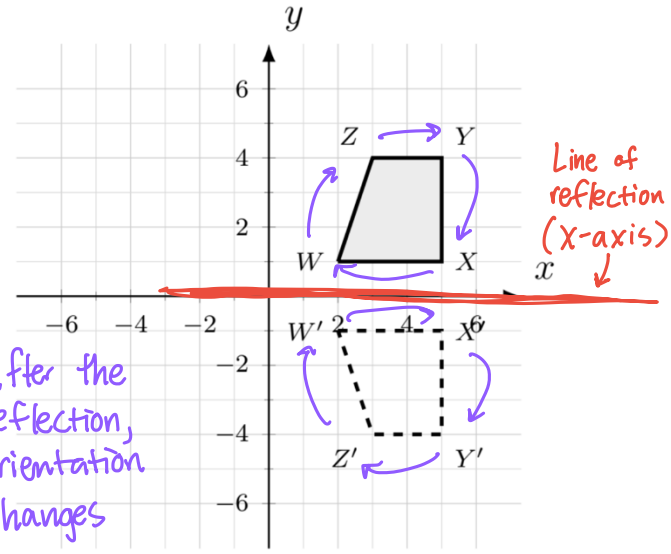
Vocabulary

- Reflection ✓
- Line of reflection ✓
- Orientation ✓
- Algebraic representation (rule) ✓
- Mapping notation ✓
- Corresponding sides/angles ✓

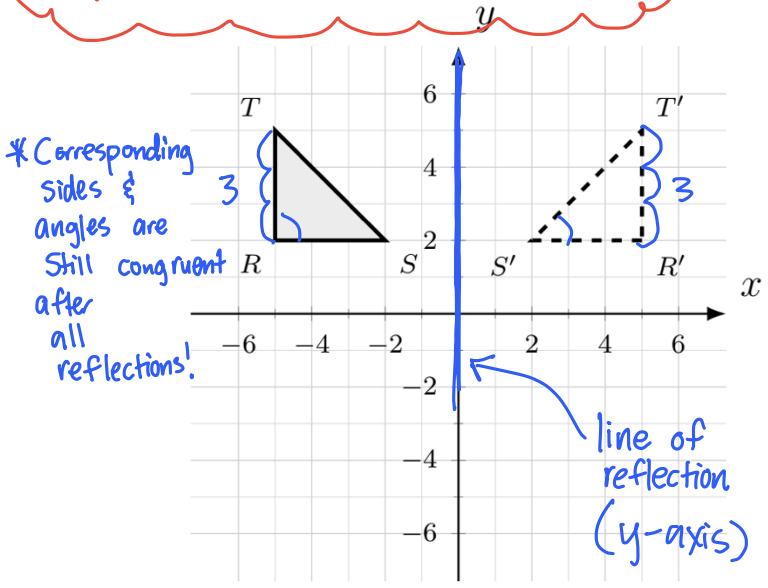
Pre-image	Image
W (2, 1)	W' (2, -1)
X (5, 1)	X' (5, -1)
Y (5, 4)	Y' (5, -4)
Z (3, 4)	Z' (3, -4)

* When reflected across the x-axis, only the y-coordinate changed (sign flipped).

Algebraic rule: $(x, y) \rightarrow (x, -y)$



After the reflection, Orientation changes (order of vertices in clockwise goes from W → Z → Y → X to W' → X' → Y' → Z').



* Corresponding sides & angles are still congruent after all reflections!

Pre-image	Image
R (-5, 2)	R' (5, 2)
S (-2, 2)	S' (2, 2)
T (-5, 5)	T' (5, 5)

* When reflected across the y-axis, only the x-value changes.

$(x, y) \rightarrow (-x, y)$