GRAPHIC ORGANIZER · SEQUENCES OF RIGID MOTIONS

Compositions: Two Moves, One Rule

Compositions of functions

Name _____

Period _____

Date _____

Essential question: When you do two rigid motions in a row, how can you write one rule for both, and does the order matter?

First move, then second move

The first move

Use the first rule on the pre-image P.

The result is the first image, P′.

P goes to P'

The second move

Use the second rule on P′, not on P.

The result is the final image, P″.

P' goes to P"

What stays the same

Fill in each blank as we find it in class.

- ☐ A sequence of rigid motions is called a _____.
- ☐ A reflection over the x-axis and then over the y-axis equals one _____ rotation.
- ☐ Changing the _____ of the moves can change where the figure lands.
- ☐ The final image is still _____ to the pre-image.

Toolkit

Fill in each blank. Keep this page out while you work.

Two moves, in order	One rule for both	Try it: P(3, −2) goes to
reflect over the x-axis, then over the y-axis	(x, y) → (_____, _____)	P″ _____
up 3, then reflect over the x-axis	(x, y) → (_____, _____)	P″ _____
reflect over the x-axis, then up 3	(x, y) → (_____, _____)	P″ _____
turn 90° counterclockwise, then left 2	(x, y) → (_____, _____)	P″ _____

Say it in one sentence: In a composition the _____ matters. I use the second rule on the _____ from the first move.