GRAPHIC ORGANIZER · SEQUENCES OF RIGID MOTIONS

Reflections: Flip It

Reflections on and off the coordinate plane

Name _____

Period _____

Date _____

Essential question: How does a mirror line decide where every point of a figure lands, and what stays the same after a flip?

The mirror line is the perpendicular bisector of PP'

Perpendicular

The segment from a point to its image crosses the mirror line at a right angle.

Travel straight across the line. Never at a slant.

Square to the line

Bisector

The point and its image are the same distance from the mirror line.

3 units in front means 3 units behind.

Same distance

What stays the same

Fill in each blank as we find it in class.

- ☐ A point on the mirror line _____.
- ☐ The image is _____ to the pre-image, but its orientation is _____.
- ☐ Clockwise order A, B, C becomes _____ order A′, B′, C′.

Toolkit

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

Mirror line	Coordinate rule	Try it: P(3, −2) goes to
x-axis	$(x, y) \to$ (_____, _____)	P′_____
y-axis	$(x, y) \to$ (_____, _____)	P′_____
y = x	$(x, y) \to$ (_____, _____)	P′_____
y = −x	$(x, y) \to$ (_____, _____)	P′_____
x = 1 (no short rule)	Count: P is _____ units right of the line	P′_____

Say it in one sentence: A reflection is a rigid motion: lengths and angles stay the same. Only the _____ changes.

My example Write one worked example from class.