

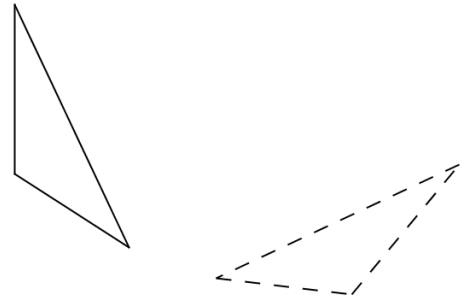
(DN) What are the defining qualities of a perpendicular bisector?

Name _____ Per _____

SLO: I can illustrate and explain the relationship between perpendicular bisectors and rotations or reflections.

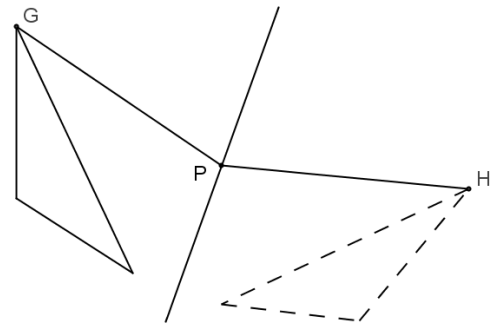
(1) **Line of reflection & Perpendicular Bisectors**
N10

The triangles at right are a preimage and its image after reflection. Is it possible to draw the line of reflection such that it is NOT the perpendicular bisector of the segments connecting the preimage points to their image points?



(2) **Line of reflection & Perpendicular Bisectors take 2**
N10

The triangles at right are the same as the triangles in #1. The line of reflection has been drawn. Is $\overline{GP} \cong \overline{HP}$? Use notes page N10 to justify your claim.



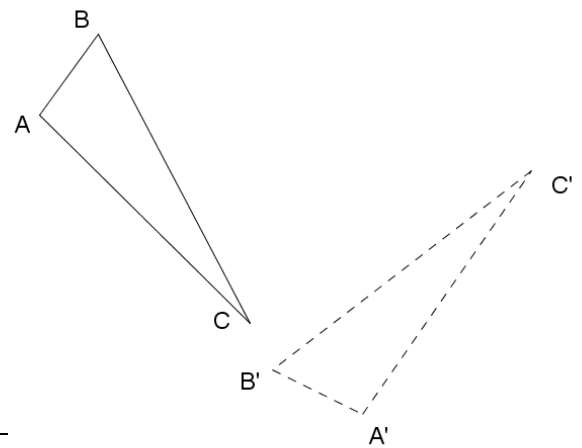
(3) **Rotation & Perpendicular Bisectors**
compass

To find the center of rotation, you must construct the _____ of _____, _____, and/or _____.

(a) Construct the center of rotation.

(b) $\overline{AA'} \cong \overline{BB'}$ True/False because _____

(c) $\overline{AB} \cong \overline{A'B'}$ True/False because _____

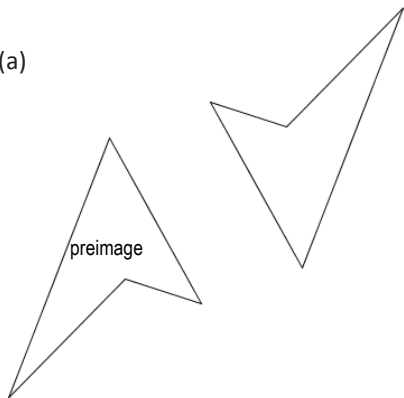


(4) **Summarizing Rigid Motions and their properties**

For each preimage-image pair:

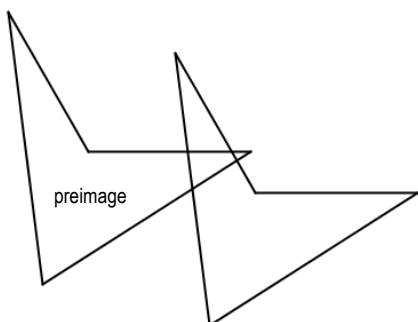
- (1) Label the preimage vertices with letters and the image with corresponding prime letters.
- (2) Identify the type of transformation
- (3) Describe how perpendicular bisectors are meaningful (if they are) for the rigid motion
- (4) List all pairs of congruent segments that illustrate preservation of distance.

(a)



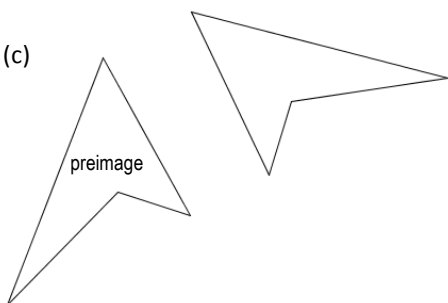
Type of Transformation	Importance of perpendicular bisectors	Congruent segments that illustrate preservation of distance

(b)



Type of Transformation	Importance of perpendicular bisectors	Congruent segments that illustrate preservation of distance

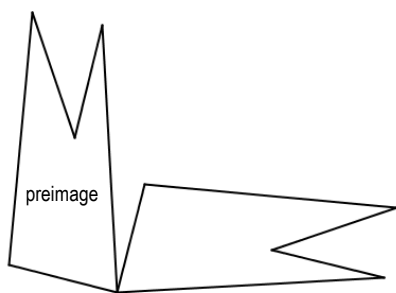
(c)



Type of Transformation	Importance of perpendicular bisectors	Congruent segments that illustrate preservation of distance

(4)
cont

(d)



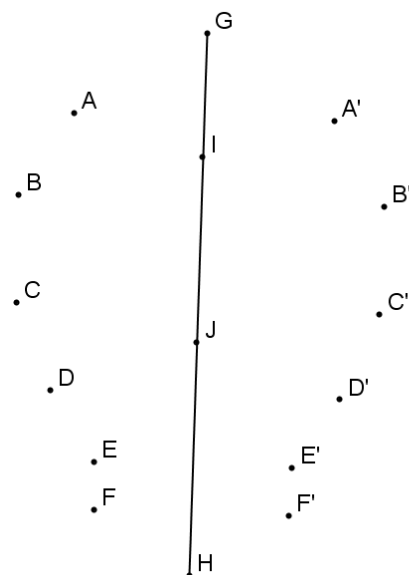
Type of Transformation	Importance of perpendicular bisectors	Congruent segments that illustrate preservation of distance

(5) **Exit Ticket**

- Describe the relationship between: (you may want to include sketches)
 - (a) reflections and perpendicular bisectors
 - (b) rotations and perpendicular bisectors

(6) **Homework**
compass

(1) In the figure, line segment GH is a line of reflection. State and justify at least two conclusions about distances in the diagram. At least one of your statements must refer to perpendicular bisectors.



- (2) On the back of this page:
 - (a) Create a problem involving reflections and perpendicular bisectors (perhaps a construction)
 - (b) Create a problem involving rotations and perpendicular bisectors (this could involve constructing the center of rotation, but not constructing an actual rotation.)