

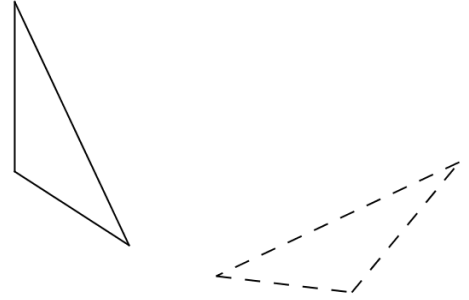
Name _____ Per _____

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

DO NOW On the back of this packet

(1) Line of reflection & Perpendicular Bisectors

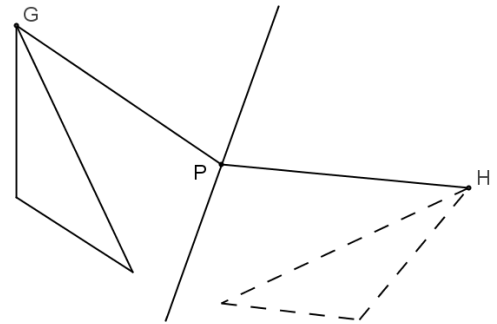
The triangles at right are a preimage and its image after reflection. Is it possible to draw the line of reflection such that it is NOT the perpendicular bisector of the segments connecting the preimage points to their image points? Explain.



(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

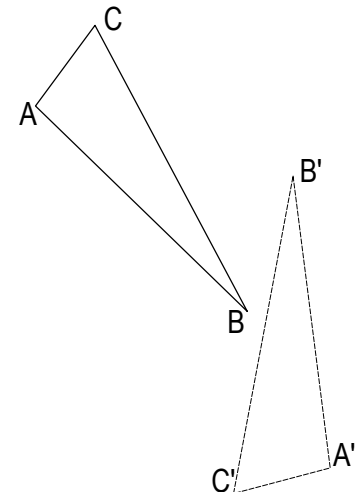
compass

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 _____

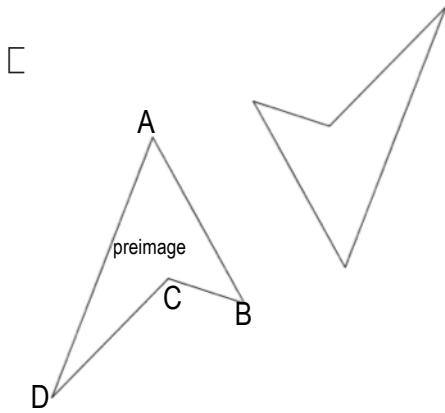
(c) $\overline{AB} \cong \overline{A'B'}$ True/False because _____



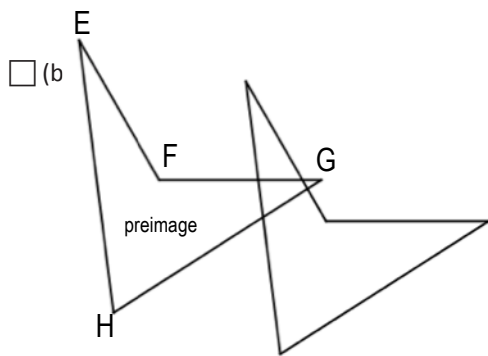
(4) **Summarizing Rigid Motions and their properties**

For each preimage-image pair:

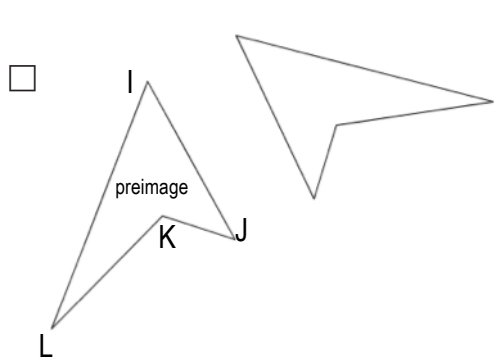
- (1) Label the preimage vertices with letters and the image with corresponding prime letters.
- (2) Identify the type of transformation
- (3) Describe how perpendicular bisectors are meaningful (if they are) for the rigid motion
- (4) List all pairs of congruent segments that illustrate preservation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



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

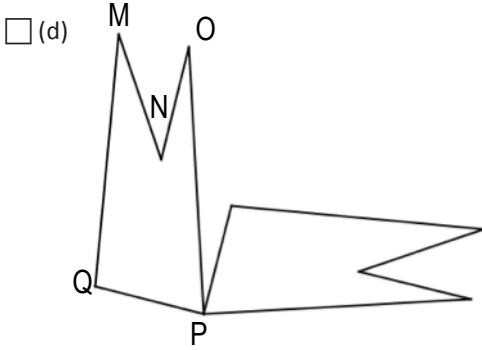


Type of Transformation	Importance of perpendicular bisectors	Congruent segments that illustrate preservation of distance



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

(4)
cont

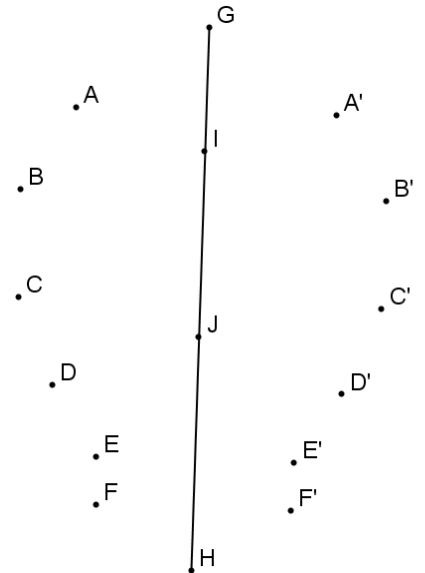


Type of Transformation	Importance of perpendicular bisectors	Congruent segments that illustrate preservation of distance

(6) **Exit Ticket**
ON THE LAST PAGE

(8) **Homework**

(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.

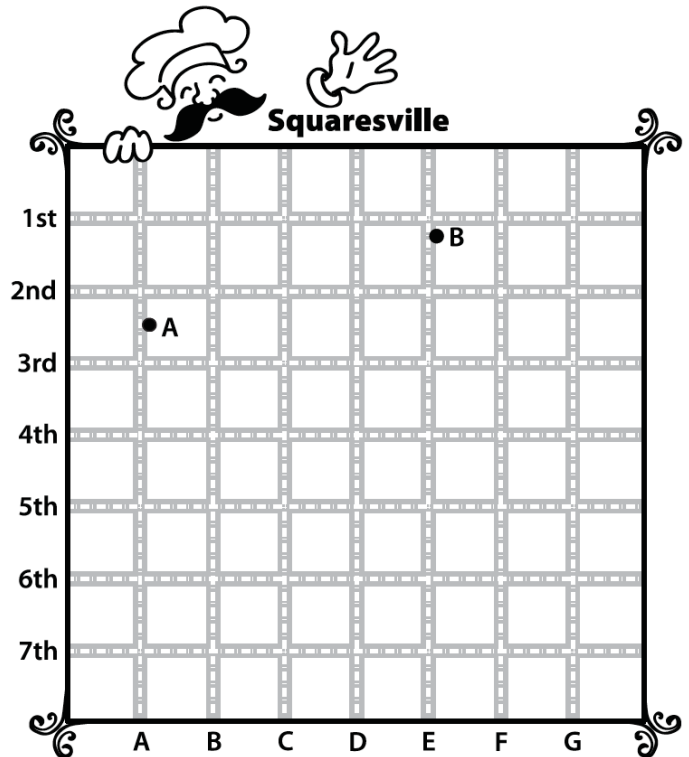


(8) **Homework**

(4) Determine how the town of Squaresville should be divided into two regions so that each house has their pizza delivered from the closer of the two pizzerias.

(a) What did you have to construct to create these two regions?

(b) If a house located at the corner of C Street and 5th Street called for a delivery, which pizzeria would take the order?



(c) What is the approximate area of each region to the nearest half block?

(d) The number of pizza delivery calls is consistent for all of Squaresville, and you have 40 people overall to staff the two pizzerias. How many workers do you need for each pizzeria?

(e) If you were able to move one of the pizzerias, could it be placed such that the areas of their delivery regions would be equal? If so, show the location on the map of Squaresville and label it with an E.

EXIT TICKET **Name** _____ **Date** _____ **Per** _____

2.9R

(1) The LO (Learning Outcomes) are written below your name on the front of this packet. Demonstrate your achievement of these outcomes by doing the following:

Include sketches as you describe the relationship between:

- (a) reflections and perpendicular bisectors
- (b) rotations and perpendicular bisectors

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

(2) What about the cartoon below is supposed to make people smile?

