Geometry Local Lomac 2015-2016	Date 2/23	due 2/24	Constructing Centers of Rotation 9.5L

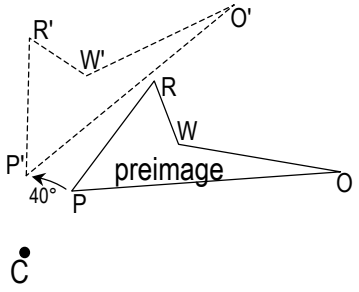
Name _____ **Per**_____

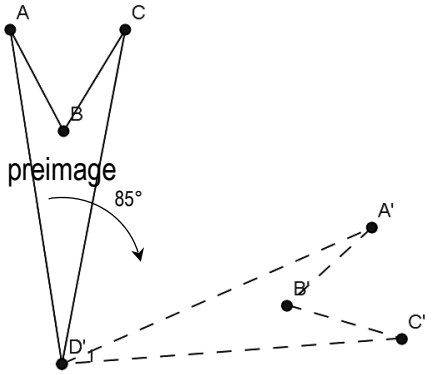
LO: I can use function notation to describe **rotations** in the plane and can construct centers of rotations with a compass and straightedge.

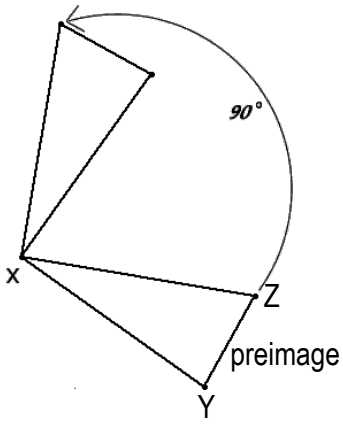
☐ (1) N10 **Rotations notes** Complete the rotation notes on page N10

R_____,_____(_____)

☐ (2) Transparency Dry erase marker Eraser **Rotations** Demonstrate rotations of the plane with transparencies and dry erase markers and name them with function notation. Use function notation to describe each rotation. Verify that each diagram illustrates a rotation by tracing the original figure and rotating according to the function notation that you have written.







Function: _____ Function: _____ Function: _____

I know that all three of these are rotation functions because (1) a rotation function is _____

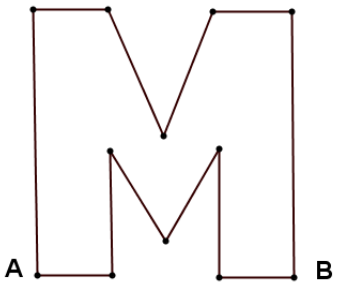
_____

and (2) when I traced and rotated each figure, _____

9.5L

☐ (3) compass

Rotations Find the center of rotation



(a) ☐ Draw a segment connecting points A and A'

(b) ☐ Using a compass and straightedge, find the perpendicular bisector of this segment.

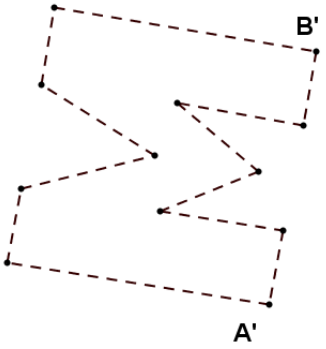
(c) ☐ Draw a segment connecting points B and B'.

(d) ☐ Find the perpendicular bisector of this segment.

(e) ☐ Label the point where the perpendicular bisectors intersect point C.

(f) ☐ Point C is the _____

(Use tracing paper to check the rotation)



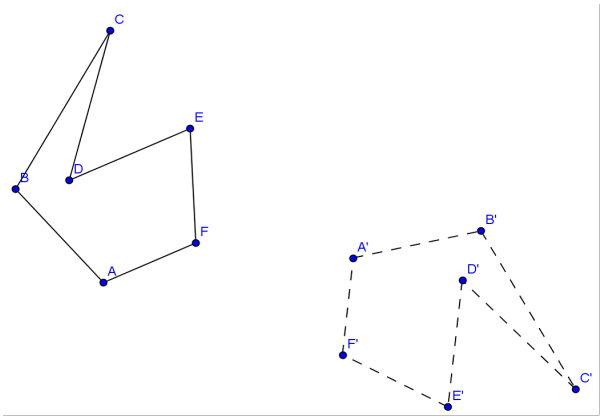
(m) Write the rotation function: _____ (name the angle of rotation)

☐ (4) compass highlighters

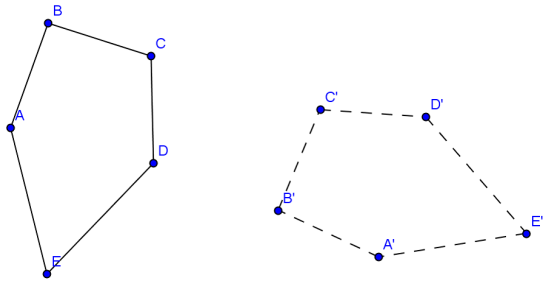
Rotations Find the center of rotation

For each preimage/image pair, construct the center of rotation and label it C.

(a) ☐



(b) ☐



Rotation notation _____

Rotation notation: _____

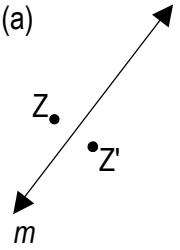
☐ (5) **BIG IDEA: To construct a center of rotation, I need to construct at least two _____ _____ of segments that connect a _____ to its _____ and mark the location where the two _____ _____ intersect This point of intersection is the _____ ___ _____.**

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

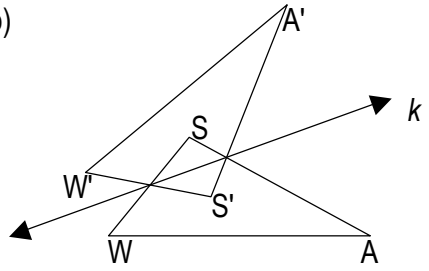
☐ (7) **Homework**

☐ (1) Describe each reflection with function notation.

☐ (a)

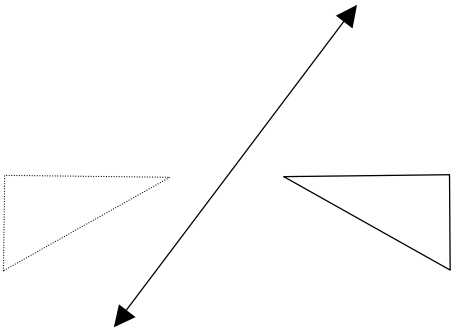


☐ (b)



☐ (2) Does the diagram at right show a triangle and its reflection across the line between them?_____ Describe how you know:

_____
_____
_____
_____
_____



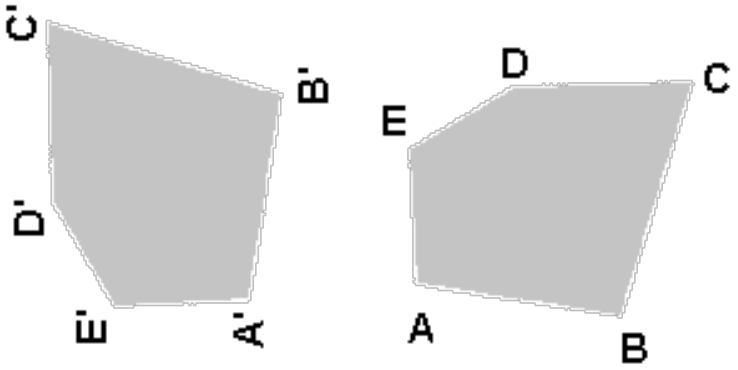
☐ (3) Sketch each of the following: (SEE NOTES)

(a) $\overline{QR} \perp \overleftrightarrow{ST}$ (b) $\overleftrightarrow{VW}$ bisects $\overline{XY}$ (c) $\angle LMN \cong \angle OPQ$

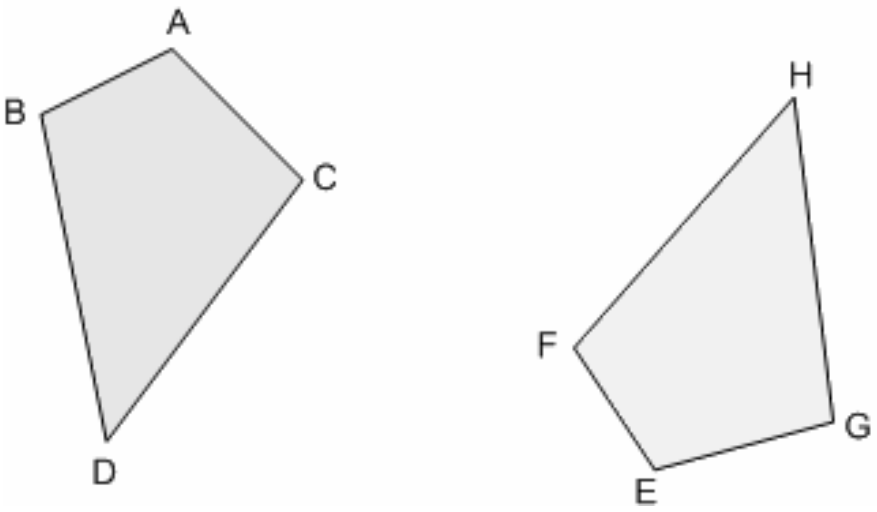
☐ (7) cont, compass highlighters **Homework**

☐ (4) For each pair of figures, construct the center of rotation and label it Z.

(a)



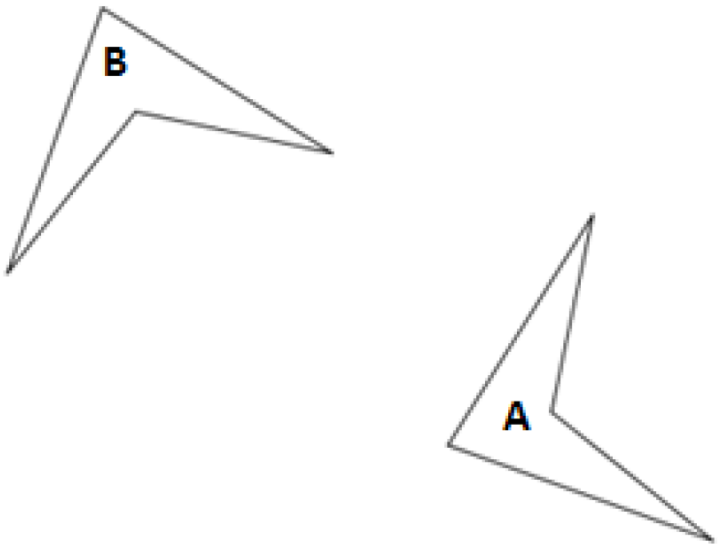
(b) First, figure out which vertices are corresponding (for example, letter A maps to letter ___).



Exit Ticket Name_____ Date _____ _____ Per_ _____ 9.5L

(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:

Find the center of rotation and name the angle of rotation for the transformation below that maps figure B onto figure A. (You may want to label the vertices (corners) of the figure to help you construct the center of rotation.



DO NOW **Name**_____ **Date** _____ **Per**_____ **9.5L**

(1) (a) Draw $\overline{AB}$ with midpoint M. (b) Draw $\angle TVS$ with vertex V.

(2) Is vertex V a midpoint? How do you know? Is midpoint M also a vertex? How do you know?

(3) What word is written below? When you turn your paper upside-down, what does the word say?

How does this relate to today's Learning Objective (LO)?