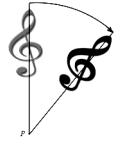| Geometry Regents Lomac 2015-2016 | Date 10/7 | due 10/8 | Constructing Centers of Rotation | 2.5R |

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) **Rotations notes** Complete the rotation notes on page N10
N10

$$R_____,_____(_____)$$

☐ (2) **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.

Transp-
arency
Dry
erase
marker
Eraser
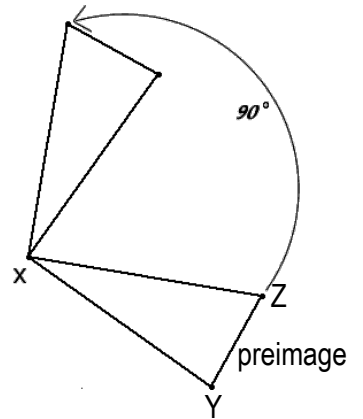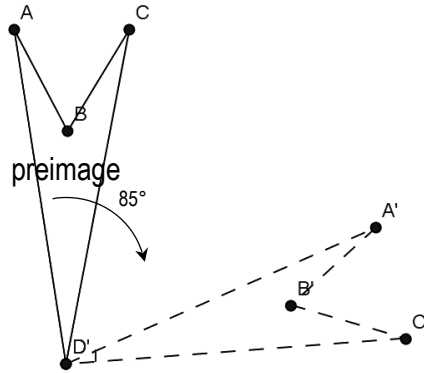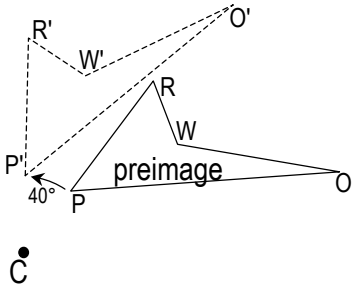
Function: _____   Function: _____   Function: _____

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, _____

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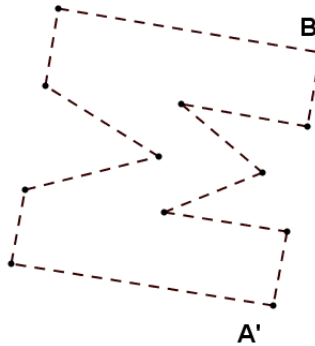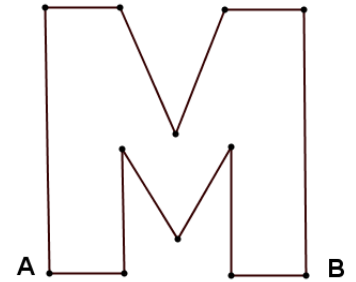
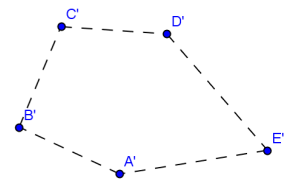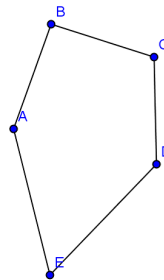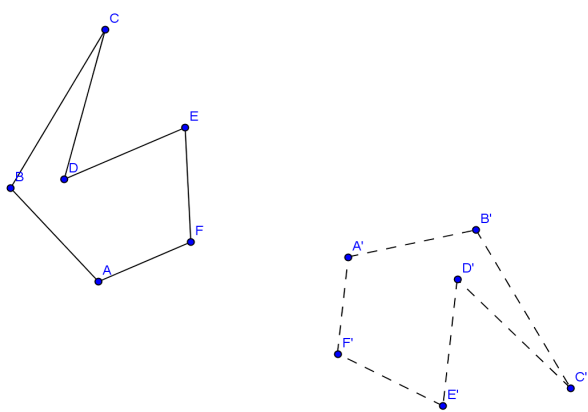(m) Write the rotation function: _____ (name the angle of rotation)

☐ (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) ☐
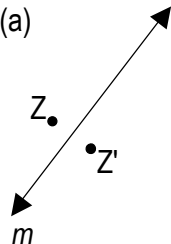
Rotation notation _____   Rotation notation: _____

☐ (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.
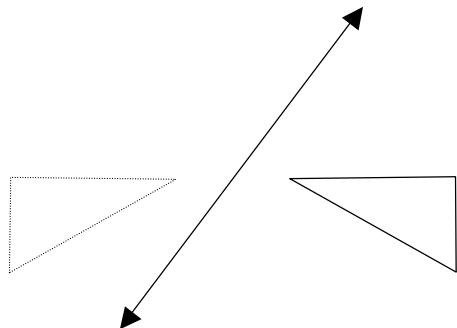
☐ (a)

Z.

•Z'

m

☐ (b)

A'

k

S

W'

S'

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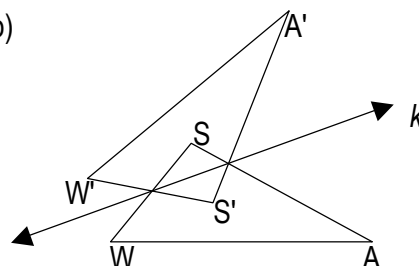
☐ (2) Does the diagram at right show a triangle and its reflection across the line between them?_____ Describe how you know:

_____

_____

_____

_____

_____

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

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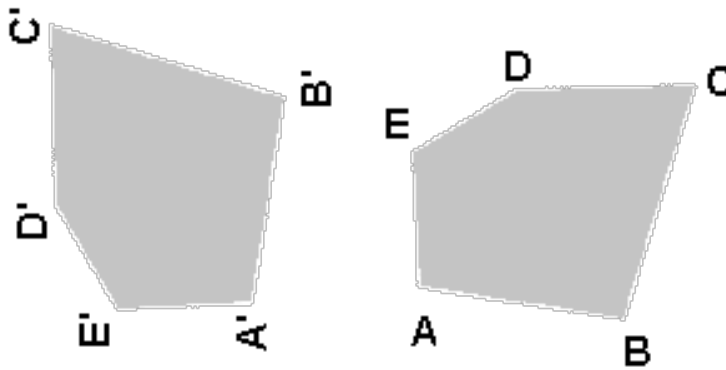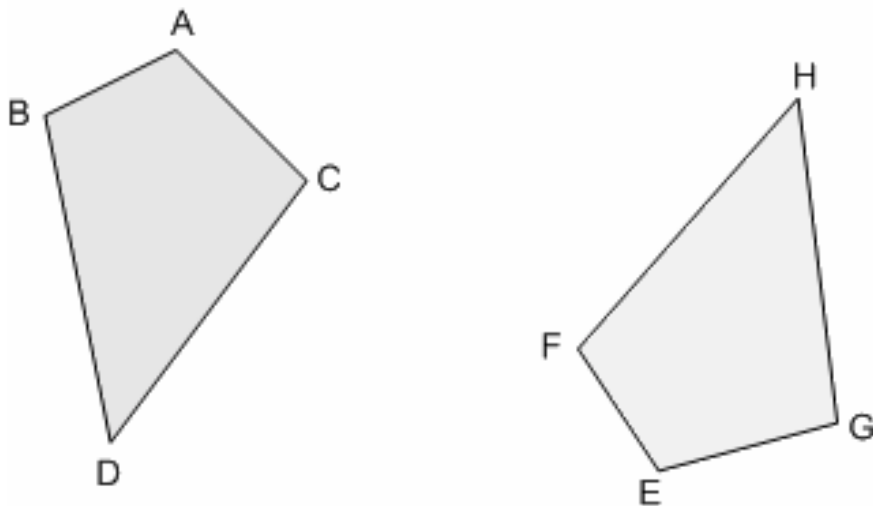
(7) **Homework**

cont,
compass
highligh-
ters

(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**_ _____   **2.5R**

(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 estimate the angle of rotation for the transformation below that maps figure B onto figure A.
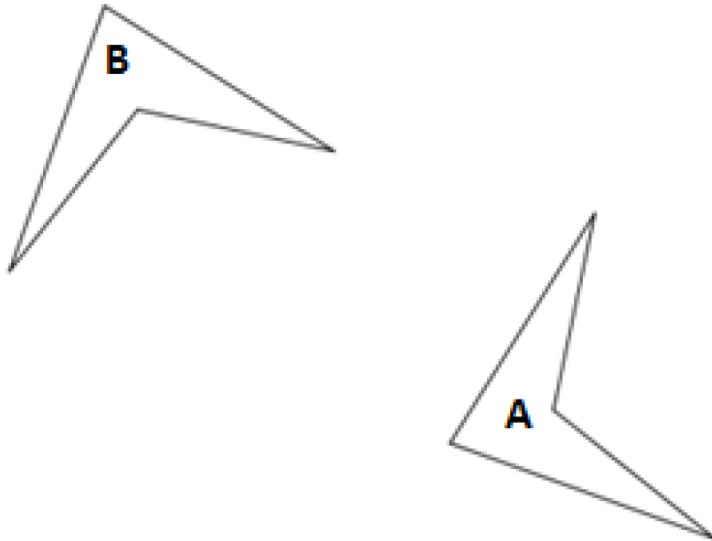
DO NOW   **Name**_____ **Date** _____ **Per**_____   **2.5R**

(1)   (a) Draw $\overline{AB}$ with midpoint M.   (b) Draw ∠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)?