| Geometry Local Lomac 2015-2016	Date 4/2	due 4/13	Similarity: Transformation Construction 11.9L

Name _____   **Per**_____

LO: I can answer questions and solve problems involving scale drawings, dilations, and similarity transformations.

☐ **DO NOW**   On the back of this packet

☐ (1)   **Scale Drawing Ratio Method**

compass, straightedge

☐ (a) Create a scale drawing (dilation) of the figure below using the ratio method about center O and scale factor r = ½. (notation: $D_{O,½}$)
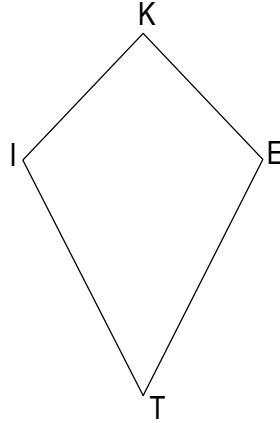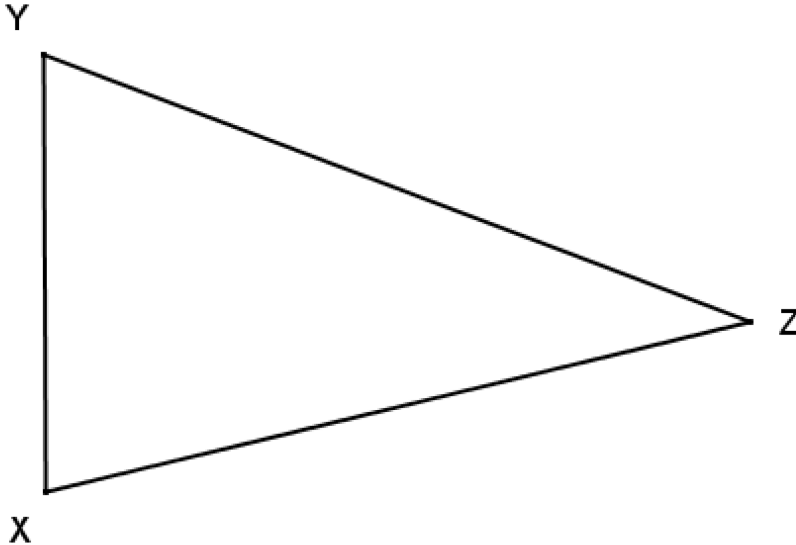

☐ (2)   **Side Splitter**

compass, straightedge

☐ Find the measure of the segment with the question mark.
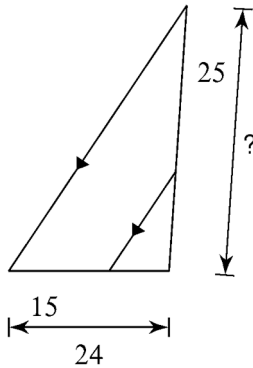
☐ (3) **The Dilation Theorem**

compass, straightedge

Produce a scale drawing of △XYZ with point X as the center and a scale factor of ¼ . Use the dilation theorem to predict Y'Z', and then measure its length directly using a ruler. Does the dilation theorem appear to hold true?

$(D_{X,1/4})$

Y

Z

X

Predict Y'Z' _____ Measure Y'Z' _____ Is $\overline{Y'Z'} \parallel \overline{YZ}$? _____

☐ (4) **Dilations Review**

compass, straightedge

A dilation with center O and scale factor r takes A to A' and B to B'. Find the center O and determine the scale factor r. Complete the function notation.
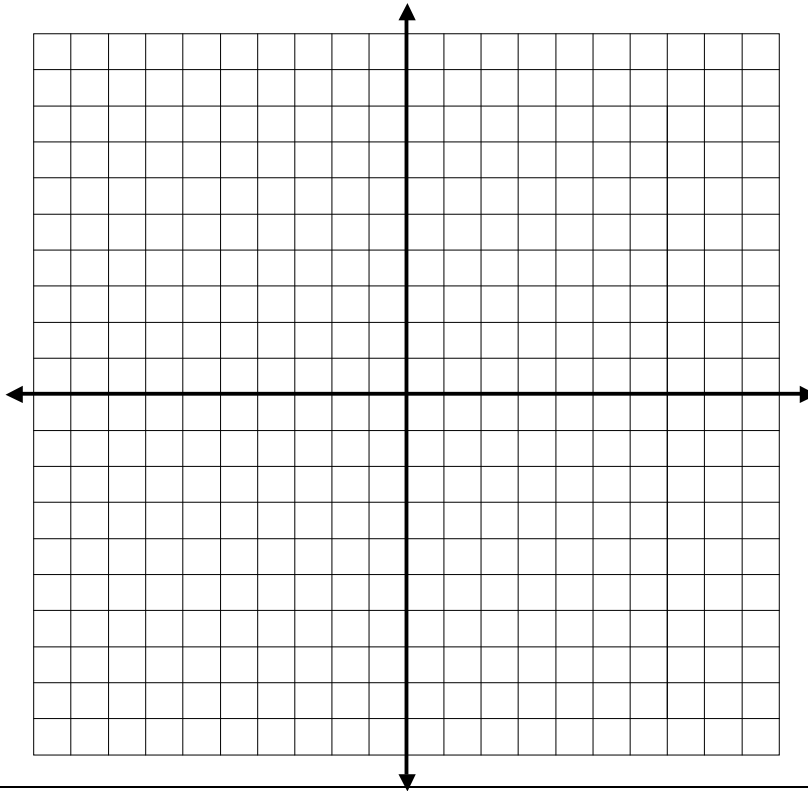
A'●

● B'

A ●

● B

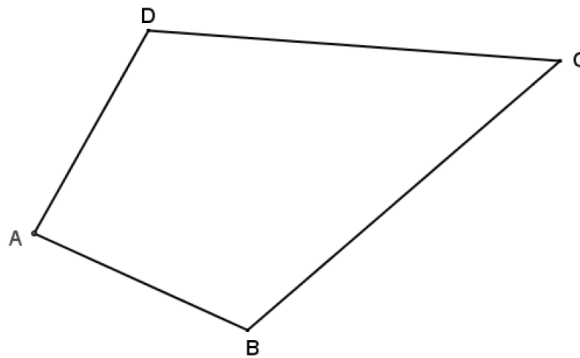D____,_____(A)

☐ (5) **Dilation behavior**

compass,
straightedge

Given U(1,3), V(–4,–4), and W(–3,6) on the coordinate plane, perform a dilation of △UVW from center O(0,0) with a scale factor of 3/2. ($D_{origin,3/2}$(△UVW)) Determine the coordinates of images of points U', V', and W', and describe a numeric relationship between the coordinates of the image points and the coordinates of the preimage points.

☐ (6) **Dilation behavior**

compass,
straightedge

Perform the dilation described. Verify that you have made a scale drawing by comparing side ratios and angle measures.(ratios of corresponding sides should be equal and angle measures should be equal)

Dilate kite $ABCD$ from center O using a scale factor $r = 1\frac{1}{2}$.

☐ (7) **Scale factors are determined by:**

$$r = \frac{\boxed{}}{\boxed{}}$$

☐ (8) **Similarity: Mapping one figure to another through a composition of transformations.**

compass, straightedge

Describe a sequence of transformations that maps J to J'''. Write the sequence in function notation.

J

J''   J'

J'''