Geometry Regents Lomac 2015-2016 Date 1/6 due 1/7	Similarity: Scale Drawings Parallel Method 5.3R

Name _____ **Per**_____

LO: I can use the parallel method to create scale drawings and can verify that a drawing is to scale by showing that lengths are proportional and angles are congruent.

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

☐ (1) **The ratio method**

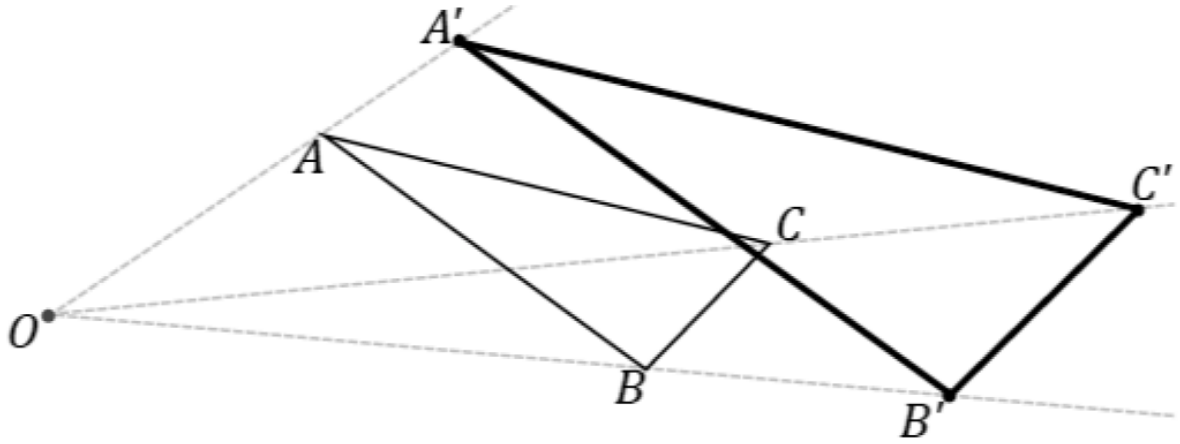
Read the lesson summary below and add anything you missed to your Do Now description of the ratio method.

Lesson Summary

1. To create a scale drawing using the ratio method, each vertex of the original figure is dilated about the center O by scale factor r. Once all the vertices are dilated, they are joined to each other in the same way as in the original figure.
2. The scale factor tells us whether the scale drawing is being enlarged ($r > 1$) or reduced ($0 < r < 1$).

☐ (2) **The parallel method**

Cori dilated △ABC from center O, resulting in △A'B'C'. He says that he completed the drawing using parallel lines. What parallel lines does he mean? How could he have done this? Explain



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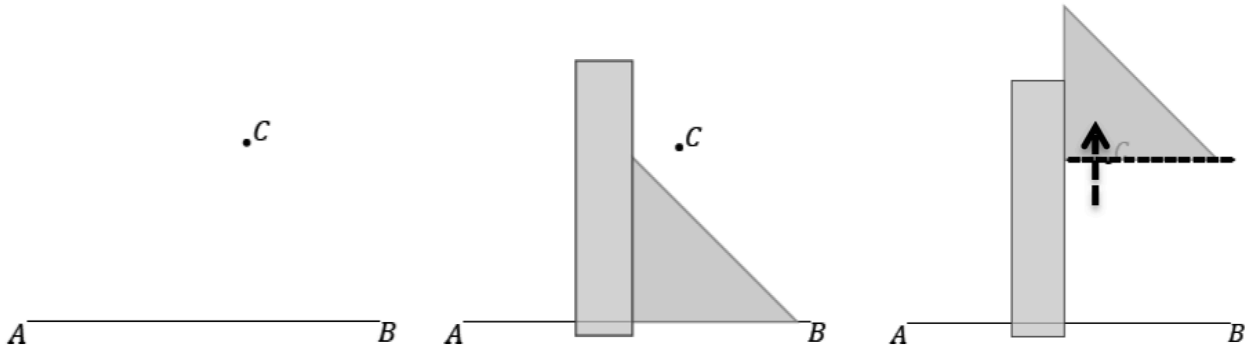
☐ (3) **Drawing parallel using a ruler and set square (or any square)**

ruler and setsquare

☐ (a) Alexus used a ruler (the rectangle) and a setsquare (the triangle) to draw a line through C parallel to AB.



What ensures that the line Alexus drew is parallel to AB?

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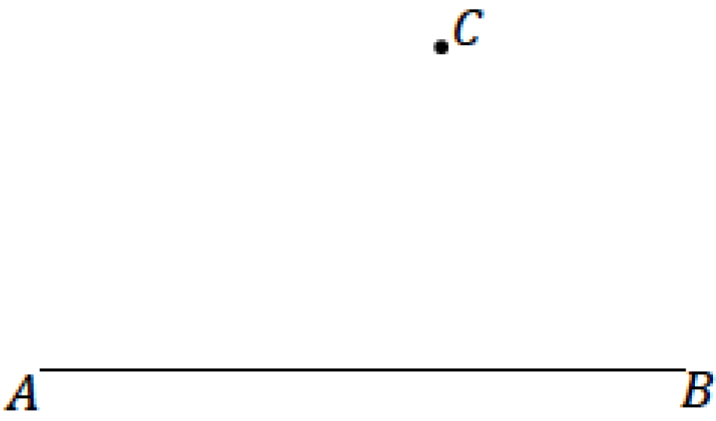
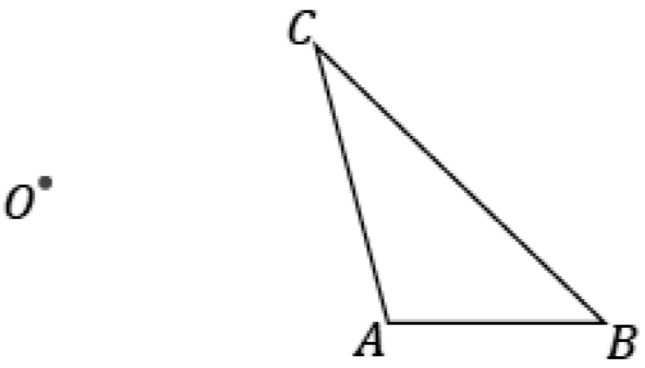
☐ (b) Brandon was drawing parallelogram ABCD when his work was interrupted. Use a ruler and setsquare to finish drawing the parallelogram that he started



☐ (4)
ruler and setsquare

Scale drawings using the parallel method

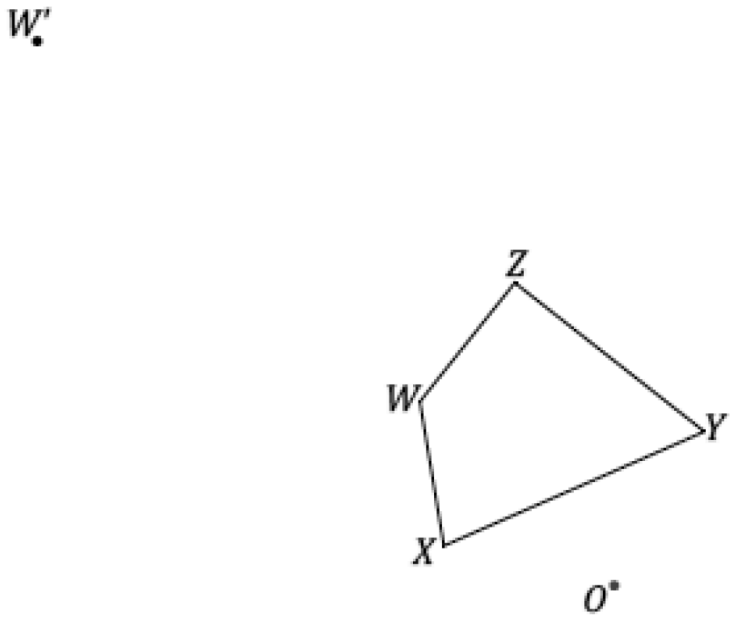
Describe the steps needed to use the parallel method to make a scale drawing of the figure below with center O and scale factor r = 2. Perform one step at a time, describing each step as you complete it.



☐ (5) ruler and setsquare

Scale drawings using the parallel method

With a ruler and setsquare, use the parallel method to create a scale drawing of WXYZ by the parallel method. W' has already been located for you.



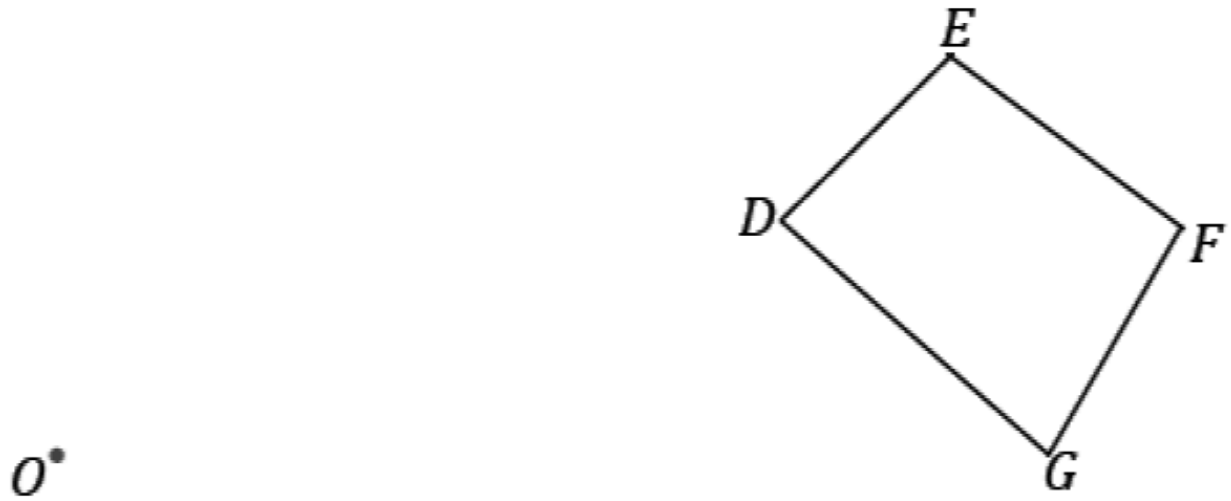
Determine the scale factor of the scale drawing. _____

Verify that the resulting figure is in fact a scale drawing by showing that corresponding side lengths are in constant proportion and that corresponding angles are equal in measurement.

☐ (6) ruler and setsquare

Scale drawings using the parallel method

With a ruler and setsquare, use the parallel method to create a scale drawing of DEFG with center O and scale factor r = ½ .



Verify that the resulting figure is in fact a scale drawing by showing that corresponding side lengths are in constant proportion and that corresponding angles are equal in measurement.

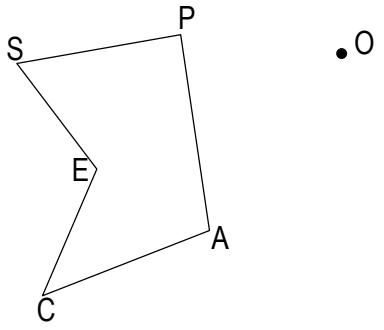
☐ (7) **Exit Ticket**

ON THE LAST PAGE

☐ (8) **Homework:**

compass, straightedge

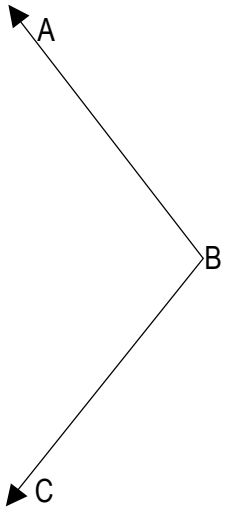
☐ (1) Use the parallel method to create a scale drawing of SPACE with center O and scale factor r = 3 and label the drawing S'P'A'C'E'



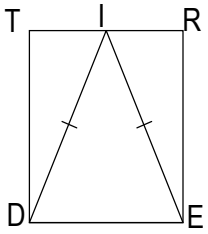
Verify that the resulting figure is in fact a scale drawing by showing that corresponding side lengths are in constant proportion and that corresponding angles are equal in measurement.

☐ (8) cont. **Homework**

☐ (2) Construct a copy of angle ABC and label it angle DEF. Construct the angle bisector of angle DEF.

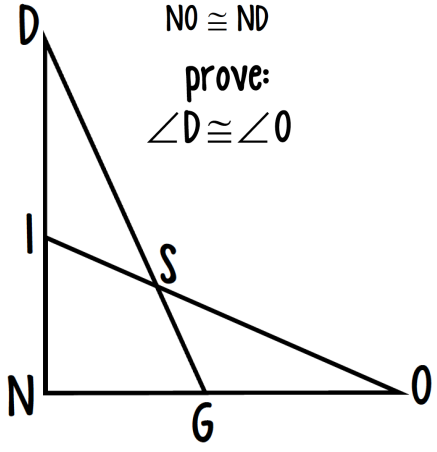


☐ (3) Robert says that ∠IDE and ∠EID are the base angles of an isosceles triangle. What is wrong with his statement?



☐ (4) Write a proof.

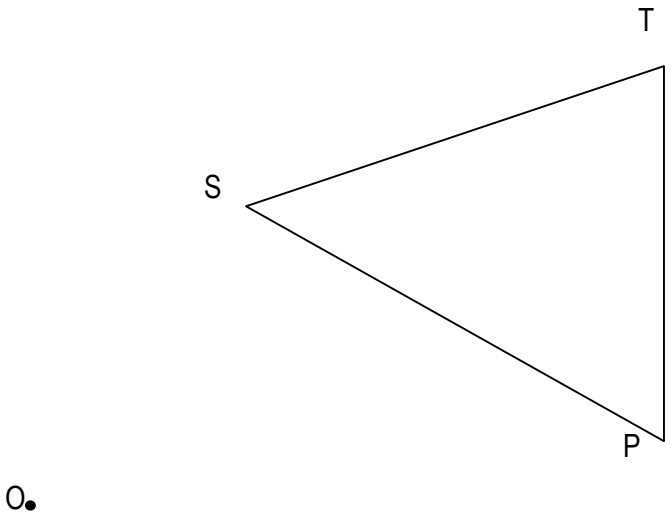
given:
$\angle NIO \cong \angle NGD$
$\overline{NO} \cong \overline{ND}$
prove:
$\angle D \cong \angle O$



Exit Ticket Name_____ Date _____ Per_____ 5.3R

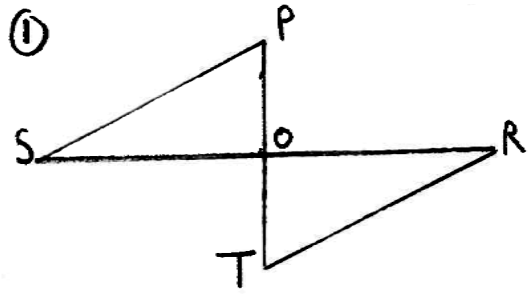
(1) The LO (Learning Outcomes) are written below your name on the front of this packet. Demonstrate your achievement of these outcomes by doing the following:

Use a ruler and setsquare to make a scale drawing of triangle STP with center O and scale factor r = ½ and label it S'T'P'. Verify that the resulting figure is in fact a scale drawing by showing that corresponding side lengths are in constant proportion and that corresponding angles are equal in measurement. (Describe or show on the diagram.)



DO NOW **Name**_____ **Date** _____ **Per**_____ **5.3R**

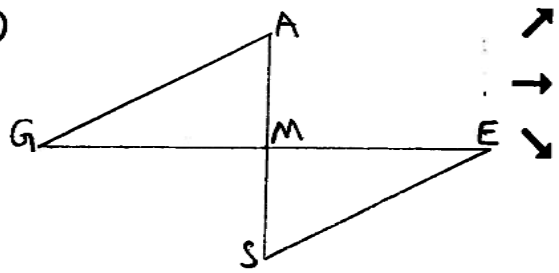
(1) PROOF PROGRESS **J**: Write a proof for #1 or #2. Attach this to the top of your "Proof Progress" packet.

① 

Given: $\overline{SP} \parallel \overline{TR}$

$\overline{SR}$ bisects $\overline{PT}$

Prove: $\overline{PT}$ bisects $\overline{SR}$

② 

Given: $\overline{GE}$ and $\overline{AS}$ bisect each other

$\overline{GA} \cong \overline{SE}$

Prove: $\triangle GAM \cong \triangle$____

You figure out the right order

(2) Describe how to make a scale drawing using the ratio method (from lesson 5.2 #3)

(3) What is happening in this series of photos?