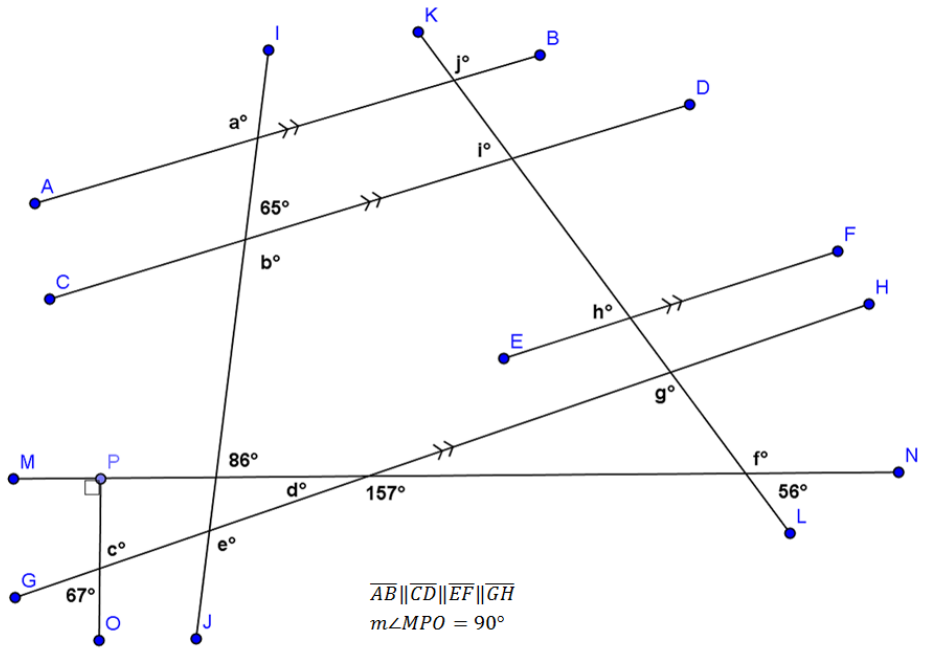
Name_____ Date_____

Geometry Lesson 12 Modular 1

Warm Up 1

1. Find the measure of each lettered angle in the figure below.



a = b = c = d = e =

f = g = h = i = j =

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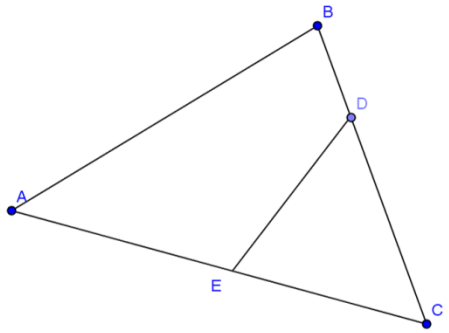
Warm Up 2

1. Given: $m\angle CDE = m\angle BAC$
   Prove: $m\angle DEC = m\angle ABC$



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Geometry Lesson 12

Class Discussion

Explaining how to transform figures without the benefit of a coordinate plane can be difficult without some important vocabulary. Let's review.

The word transformation has a specific meaning in geometry. A transformation F of the plane is a function that assigns to each point P of the plane a unique point $F(P)$ in the plane. Transformations that preserve lengths of segments and measures of angles are called _____. A dilation is an example of a transformation that preserves _____ measures but not the lengths of segments. In this lesson, we will work only with rigid transformations. We call a figure that is about to undergo a transformation the _____ while the figure that has undergone the transformation is called the _____.

For a rotation, we need to know:

For a reflection, we need to know:

For a translation, we need to know:

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Classwork

An example of a rotation applied to a figure and its image are provided. Use this model to answer the questions that follow it. For each question, a pair of figures (pre-image and image) are given as well as the center of rotation. For each question, identify and draw the following:

I. The circle that determines the rotation, using any point on the pre-image and its image.

II. An angle, created with three points of your choice, which demonstrates the angle of rotation.

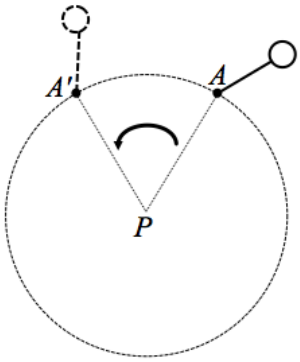
Example of a Rotation:

Pre-image: (solid line)

Image: (dotted line)

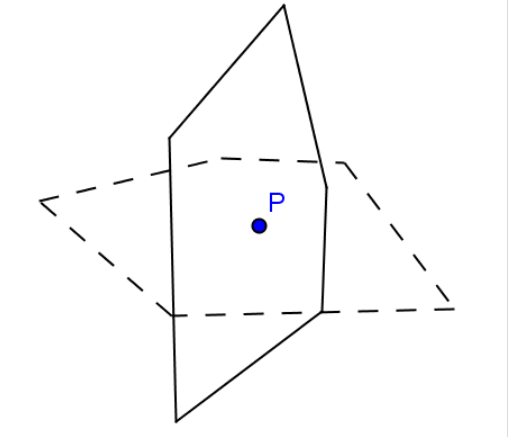
Center of rotation: P

Angle of rotation: $\angle APA'$



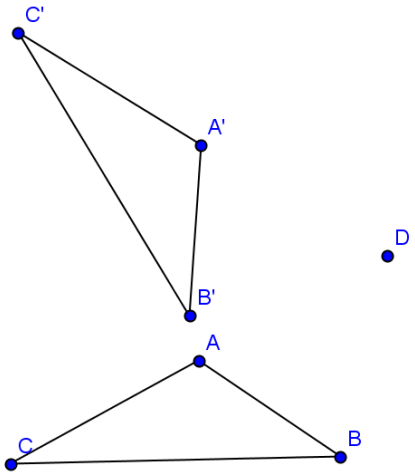
1. Pre-image: (solid line)
   Image: (dotted line)
   Center of rotation: P

   Angle of rotation: _____



2. Pre-image: $\triangle ABC$
   Image: $\triangle A'B'C'$
   Center: D

   Angle of rotation: _____



----------**TEAR ALONG DOTTED LINE**----------

Exit Ticket

How are transformations and functions related? Provide a specific example to support your reasoning.

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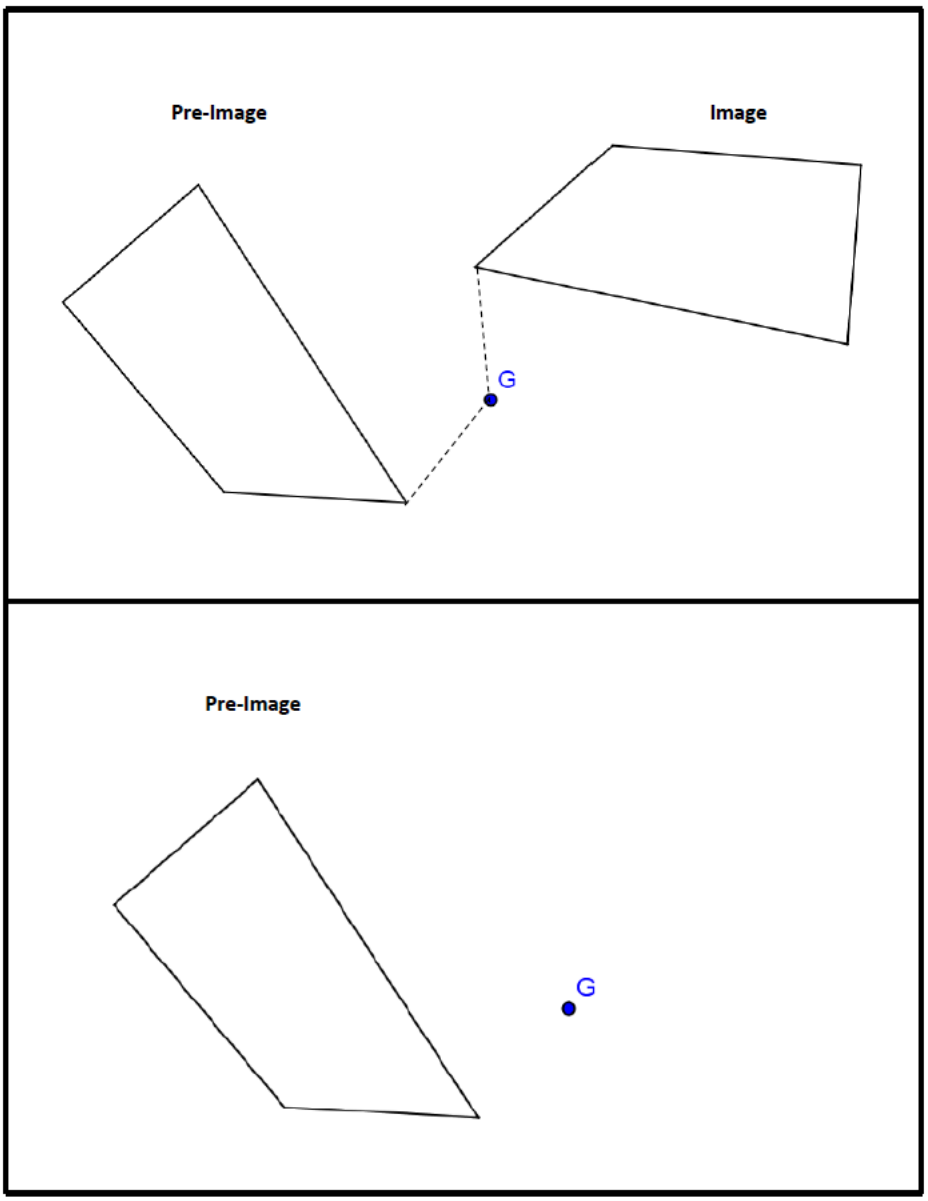
TOD 2

Name the Transformations:



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Relevant Vocabulary

Basic Rigid Motion:

_____

_____

_____

_____

_____

Distance Preserving

_____

_____

_____

_____

_____

Angle Preserving:

_____

_____

_____

_____

_____