**Geometry**

9.5 Apply Compositions of Transformations

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**Composition of Transformations**

- _____ or ______ transformations ________ into a ______ transformation

**Glide Reflection**

- __________ followed by __________

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**The vertices of ΔABC are A(3, 2), B(-1, 3), and C(1, 1). Find the image of ΔABC after the glide reflection.**

**Translation:** $(x, y) \rightarrow (x, y - 4)$

**Reflection:** Over y-axis

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**Composition Theorem**

A composition of two (or more) __________ is an __________.

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**Reflections in Parallel Lines Theorem**

If lines $k$ and $m$ are __________, then a ________ in ______ followed by a reflection in ______ is the same as a ________

If $P''$ is the image of $P$, then

$PP''$ is __________ to $k$ and $m$, and

$PP'' = ______$ where $d$ is the __________ between $k$ and $m$
Geometry 9.5

Use the figure below. The distance between line k and m is 1.6 cm.

1. The preimage is reflected in line k, then in line m. Describe a single transformation that maps the blue figure to the green.
2. What is the distance from P and P’’?

Reflections in Intersecting Lines Theorem

If lines k and m ______________ at point P, then a ___________ in _______ followed by a reflection in _______ is the same as a ___________ about point P.

The ________________ is ________, where x° is the measure of the __________ or _______ angle formed k and m.

In the diagram, the preimage is reflected in line k, then in line m. Describe a single transformation that maps the bottom right figure to the top left.

Assignment: 611 #2-30 even, 40-48 even = 20

Extra Credit: 615 #2, 8 = +2