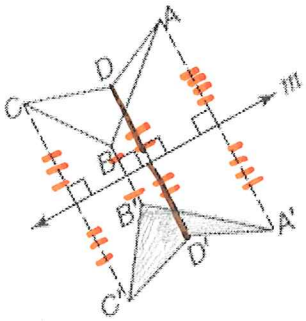
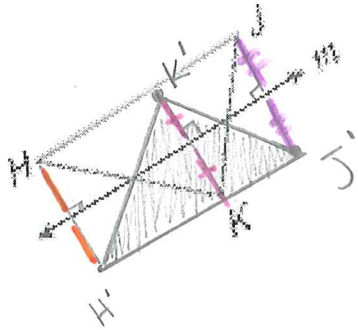
**GEOMETRY** **DATE:** _____

**9-1 NOTES, Reflections**

A reflection is a transformation which is a flip! or Mirror image.




You try:




**IMPORTANT TERMS**:

PREIMAGE: The figure you start w/

IMAGE: The answer or the figure after you perform the transformation.

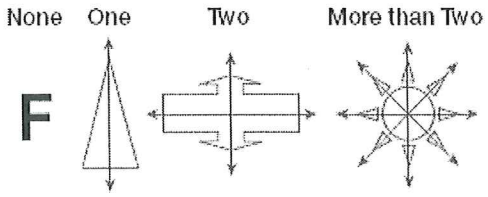
PRIME MARKS:

Are placed on the image after the transformation is peformed - we also shade in our image in Schmidt's class.

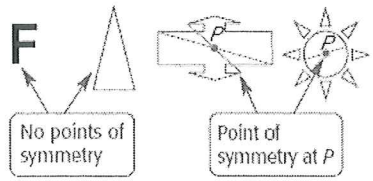
ISOMETRY or CONGRUENCE TRANSFORMATION:

The preimage and image are ≅ w/ these types of transformations.

LINE OF SYMMETRY or LINE OF REFLECTION:



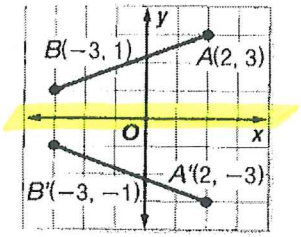

POINT of SYMMETRY:



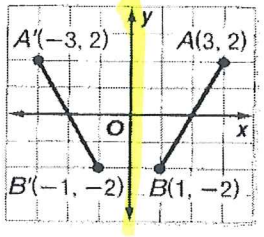
**Rules for Reflections on a Coordinate Plane:** Always highlight your line or pt of reflection.

There are 4 common rules when reflecting a figure in a coordinate plane:

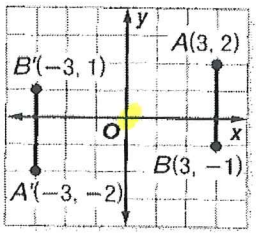
- Line of Reflection over the x-axis (y=0): $(a, b) \rightarrow (a, -b)$



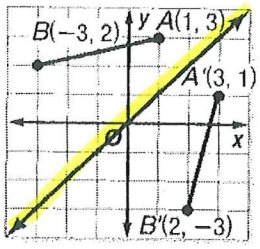

- Line of Reflection over the y-axis (x=0): $(a, b) \rightarrow (-a, b)$



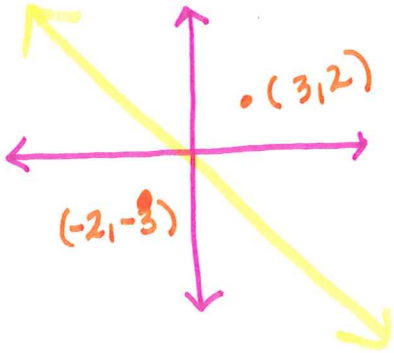

- Point of Reflection over the origin (0, 0): $(a, b) \rightarrow (-a, -b)$




- Line of Reflection over the line y=x (inverse): $(a, b) \rightarrow (b, a)$




If $y = -x$ $(a, b) \longrightarrow (-b, -a)$



# Basic Constructions of Reflections In Class

Reflect the given figure over the given line.

1.

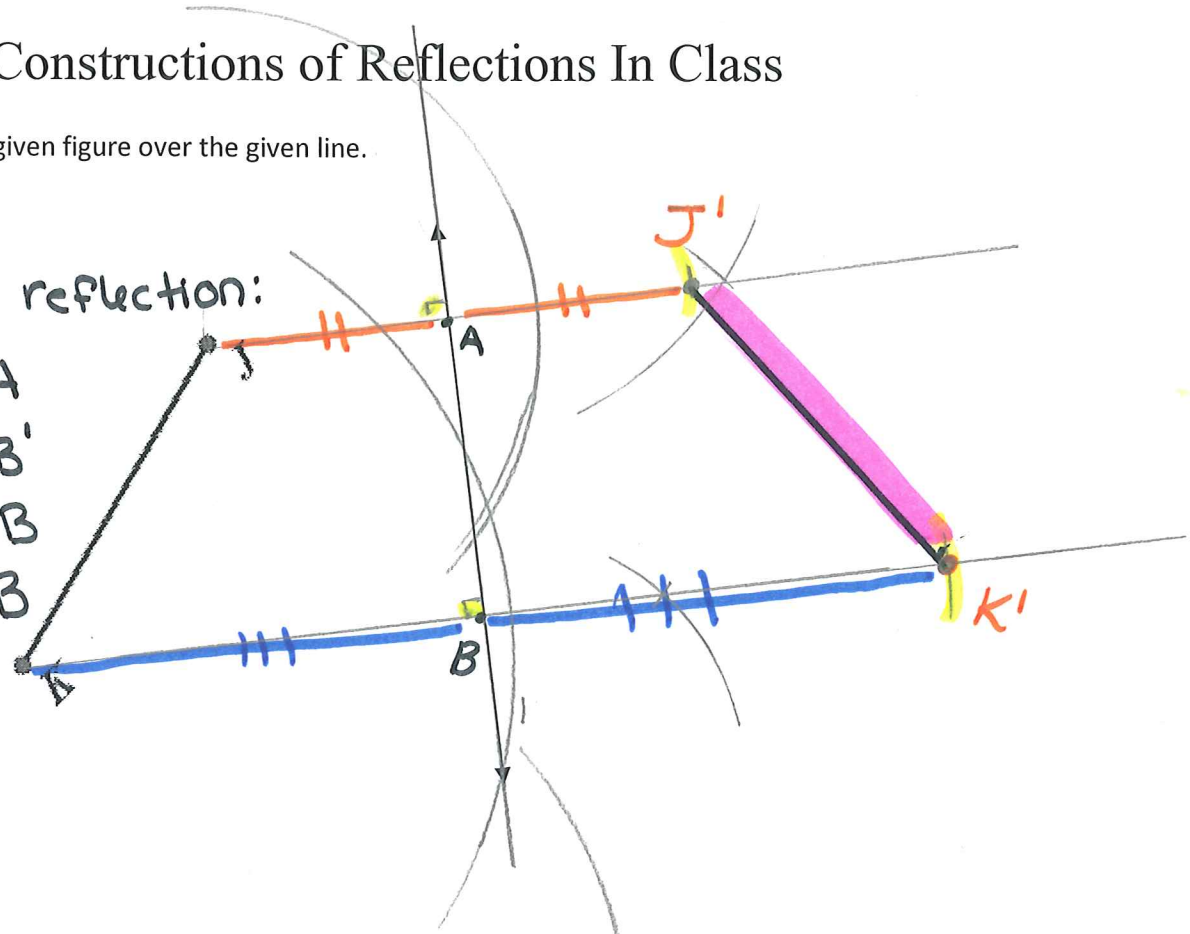
In this reflection:

$JA \cong J'A$

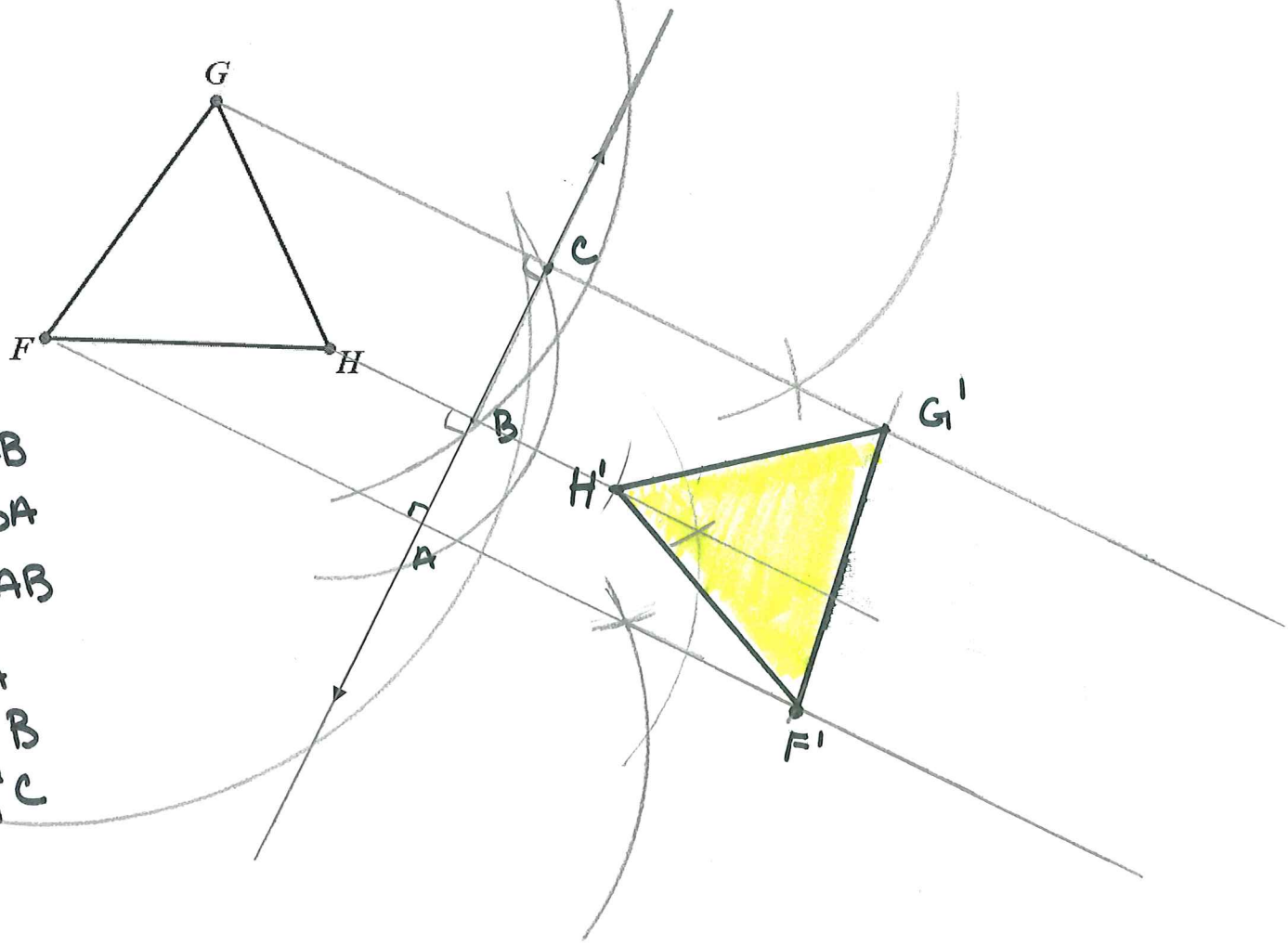
$KB \cong K'B'$

$JJ' \perp AB$

$KK' \perp AB$




2.




$GG' \perp CB$

$HH' \perp BA$

$FF' \perp AB$

$FA \cong F'A$

$HB \cong H'B$

$GC \cong G'C$