# Transformation Picture Project

- You will need to draw a ***pre-image of a picture that has 10 or more points***. The pre-image should have detail to it and not just be a picture of a shape or letter like we did in class.

- Your pre-image should be completely ***inside one of the quadrants*** on the coordinate plane. It does not matter which quadrant you start in. It is your choice. Use your imagination when deciding on a picture and impress me!

- Draw you pre-image and place ***points at all of the vertices.***

- ***List the points and ordered pairs*** on the transformation summative activity chart.

- Next you will ***accurately translate, reflect and rotate your image*** into each of the remaining quadrants. You may do this in any order that you want. All points should be listed accurately ***with a title on the transformation data sheet*** so I can determine if your transformations are correct.

- ***Each image should have an arrow showing the direction*** that the image is moving,(remember we drew arrows), as well as color coding the image and ordered pairs.

- You will also ***color code the images and ordered pairs.***

- Make sure you use the ***rubric if you have any questions.***

# Data Sheet

| *Points* | *Pre-image Coordinates (x, y)* | | | |
|---|---|---|---|---|
| *A* | | | | |
| *B* | | | | |
| *C* | | | | |
| *D* | | | | |
| *E* | | | | |
| *F* | | | | |
| *G* | | | | |
| *H* | | | | |
| *I* | | | | |
| *J* | | | | |
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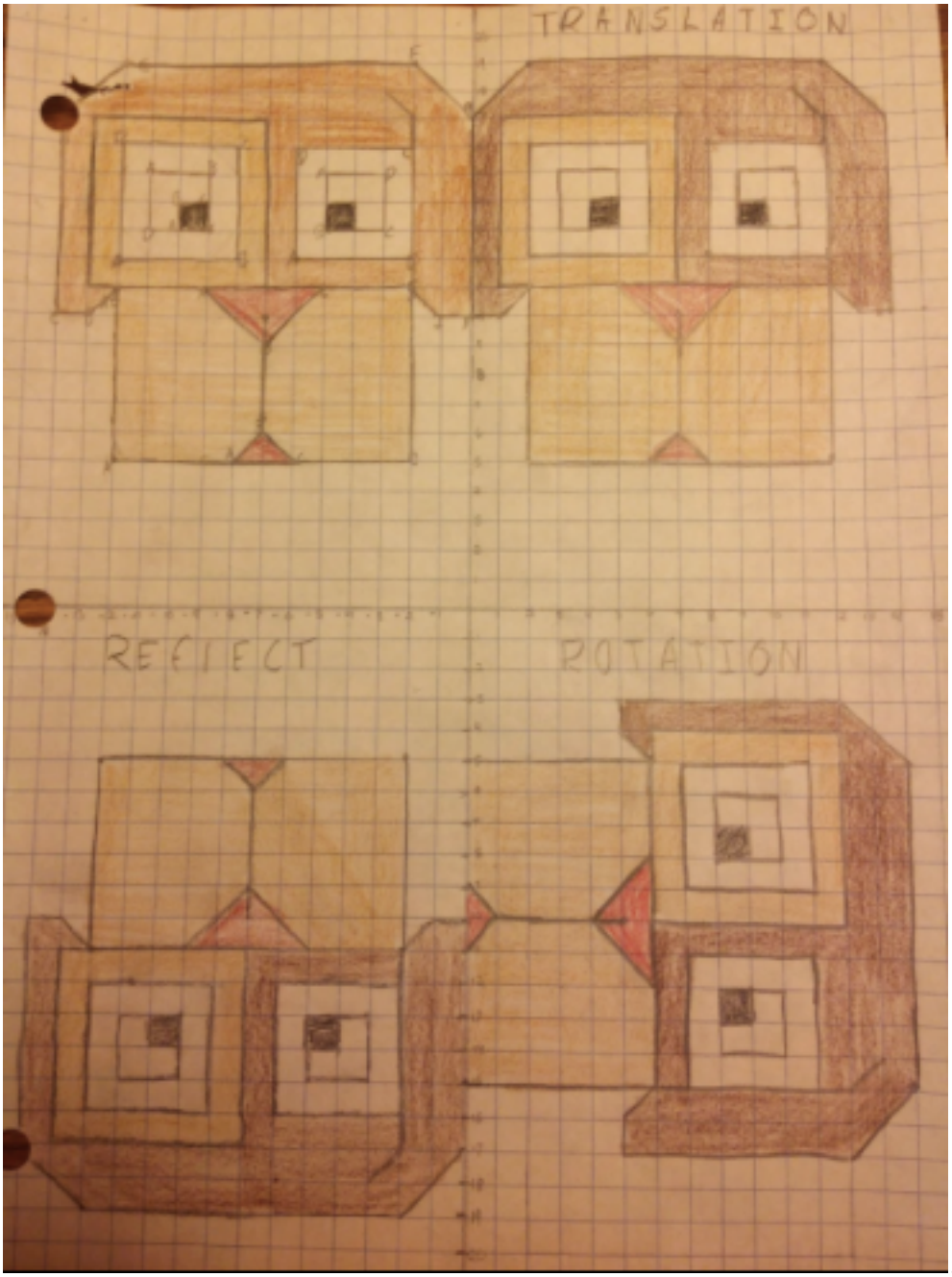
# Rubric

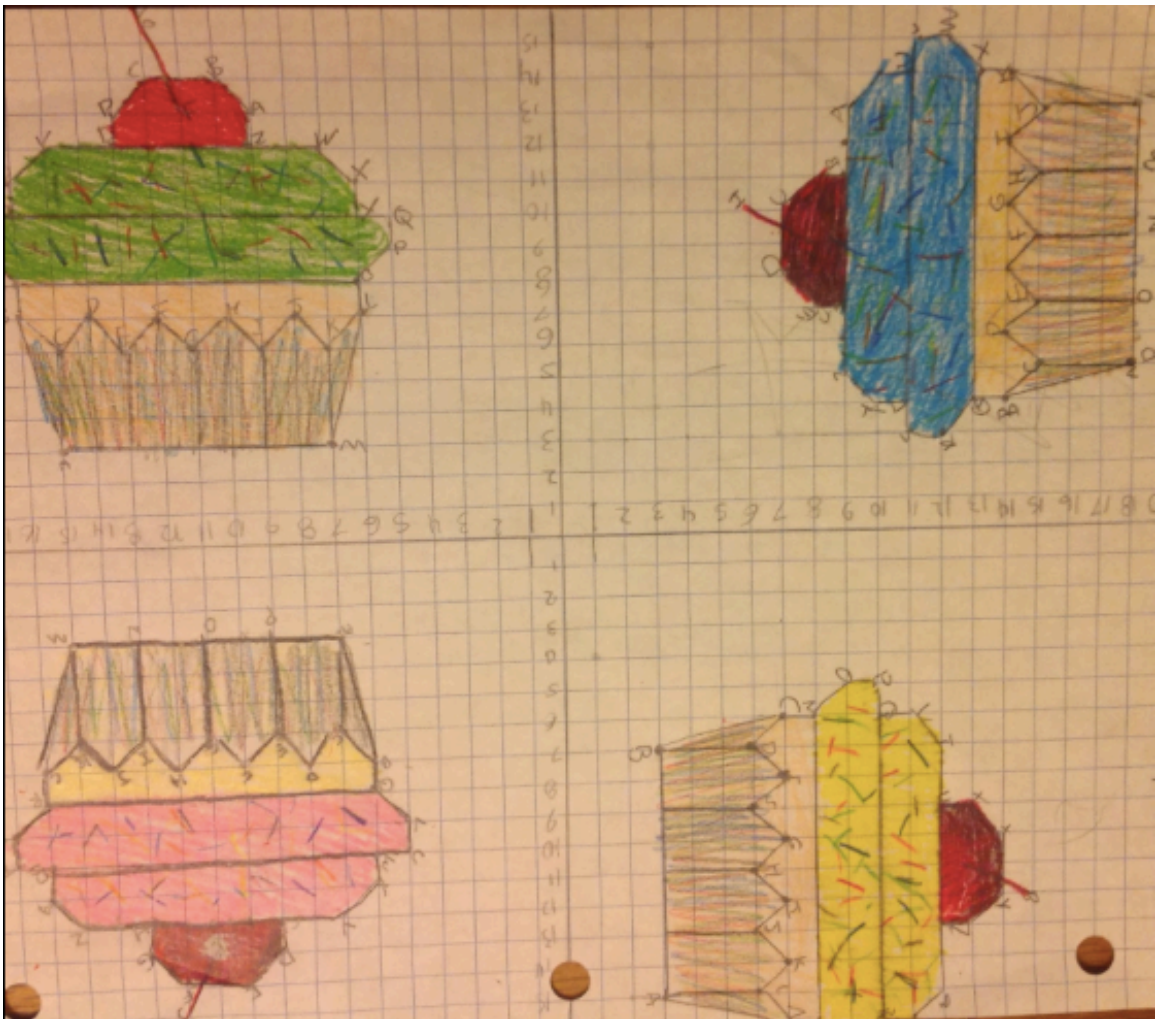
Rubric for Summative Assessment of Transformations Name:_____

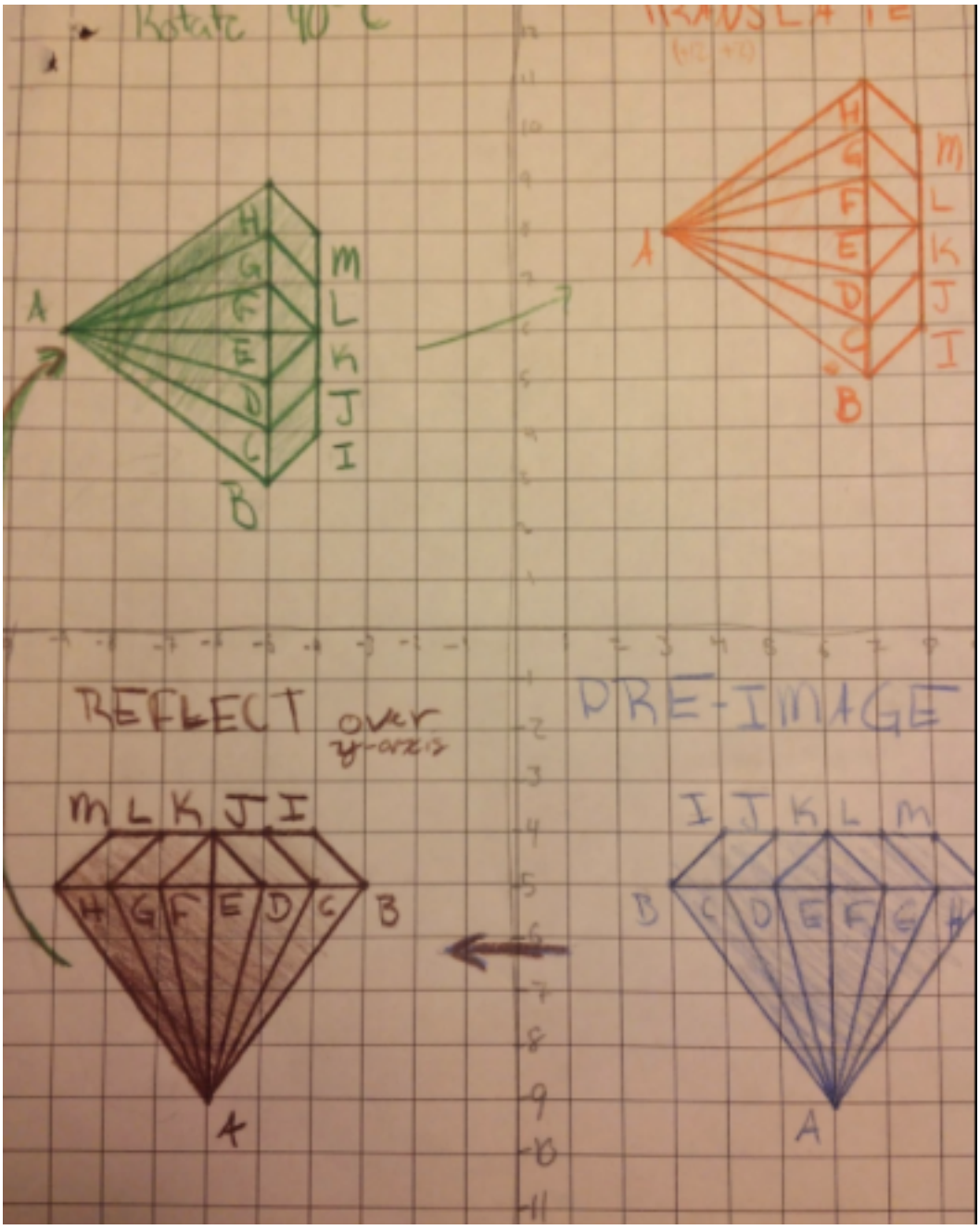
| Score | Conceptual Understanding | Mathematical Skills | Work Habits |
|---|---|---|---|
| 4 | Shows complete understanding of<br>• translations, reflections and rotations in the coordinate plane | Performs and identifies the following transformations correctly:<br>• Pre-Image<br>• Reflection<br>• Rotation<br>• Translation | • Graphing in the coordinate plane is done carefully and points are accurately identified.<br>• Work is very neat and well organized, lines and points are clear and all shapes are colored neatly.<br>• Each translation is in a separate quadrant with no overlaps.<br>• All points and ordered pairs are clearly listed and accurate with no errors. All ordered pairs are color coded to match the diagrams.<br>• Identifies all transformations correctly.<br>• The direction of the transformations is clearly shown. |
| 3 | Shows nearly complete understanding of:<br>• Translations, reflections, and rotations in the coordinate plane. | Performs and identifies the following transformations correctly:<br>• Pre-Image<br>• Reflection<br>• Rotation<br>• Translation<br>Transformations of all pictures completed in a separate quadrant with no overlaps. | • Almost all of the graphing in the coordinate plane is correct and most points are accurately identified.<br>• Work is neat and organized.<br>• All pictures are colored.<br>• All points and ordered pairs are clearly listed and color coded with no more than 3 errors.<br>• Identifies all transformations correctly.<br>• The direction of the transformation is not clear on one of the pictures. |
| 2 | Shows some understanding of:<br>• Translations, reflections, and rotations in the coordinate plane. | Transformations of two pictures completed in a separate quadrant with no overlaps. | • Most of the graphing in the coordinate plane is correct and most points are accurately identified.<br>• Work is not organized.<br>• All pictures are colored but not as neatly as they should be.<br>• Most points and ordered pairs are clearly listed with no more than 6 errors.<br>• Identifies all transformations correctly.<br>• The direction of the transformation is not clear on two of the pictures |
| 1 | Shows little understanding of:<br>• Translations, reflections, and rotations in the coordinate plane | Transformations of one pictures completed in a separate quadrant with no overlaps. | • List some of the points and ordered pairs correctly.<br>• Some graphing in the coordinate plane is done carefully and some points are accurately identified.<br>• The pictures and ordered pairs are not colored.<br>• Work is sloppy and not well organized. |
| 0 | Does not show understanding of:<br>• Translations, reflections, and rotations in the coordinate plane | Does not show all pictures or generate a listing of ordered pairs or identify the transformations. | • Graphing in the coordinate plane is not done carefully and is incomplete in many places. Points are inaccurately identified.<br>• Work is sloppy and disorganized.<br>• Does not identify transformations. |

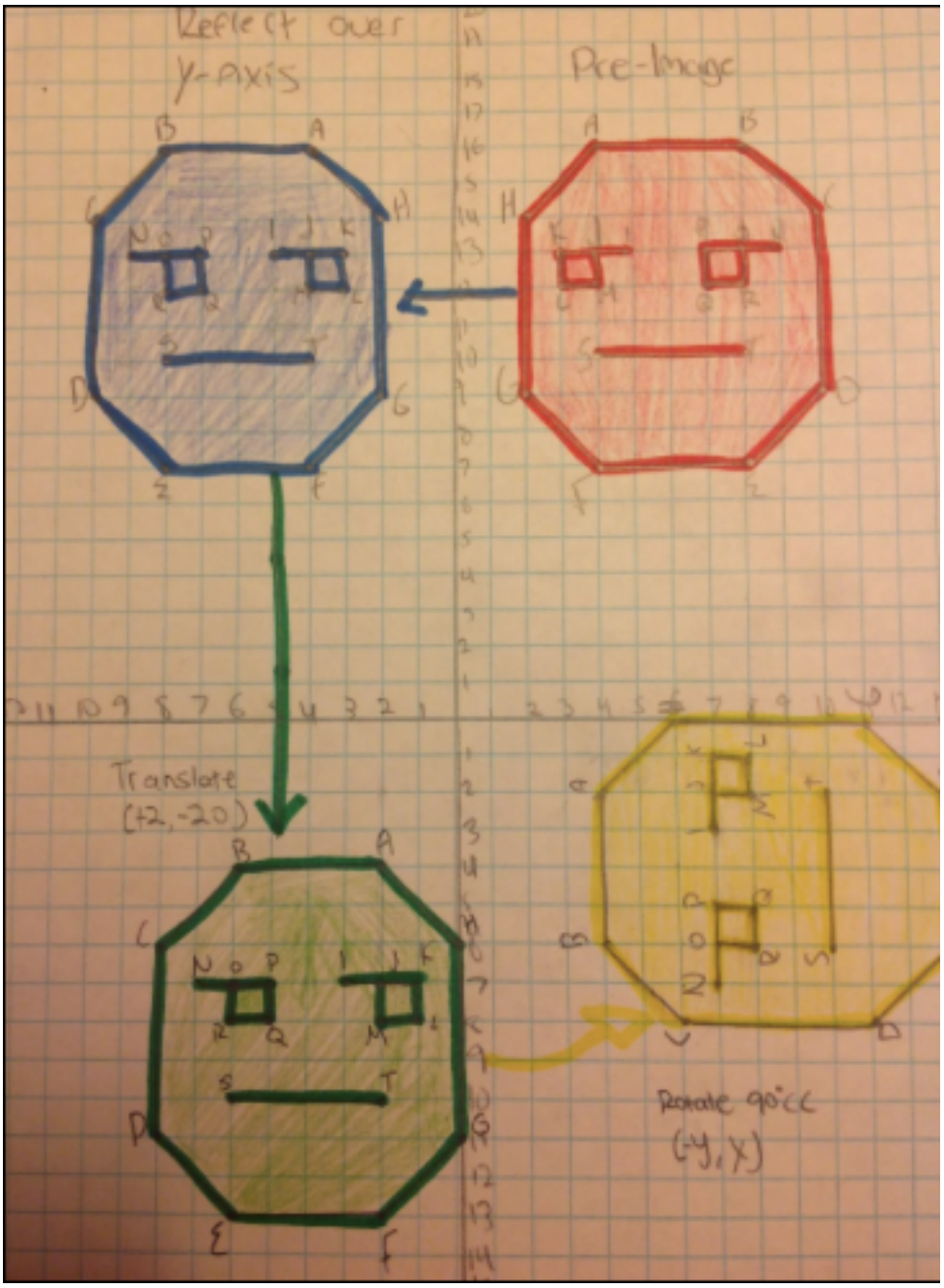
# Examples

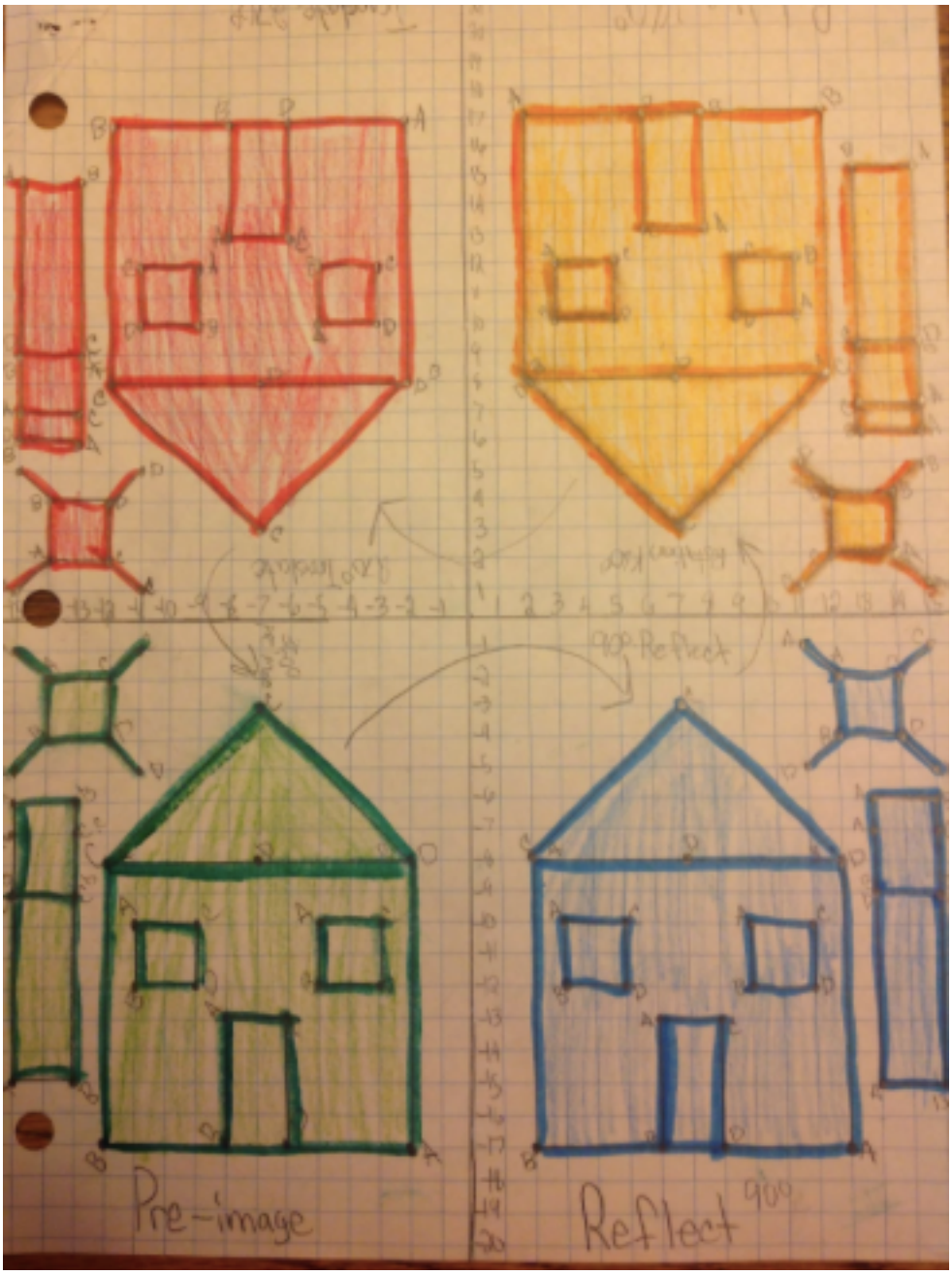


s:




Rotate 90° C
A
H G F E D C
M L K J I
B
TRANSLATE
(x2, +0)
REFLECT over y-axis
M L K J I
H G F E D C B
A
PRE-IMAGE
I J K L M
B C D E F G H
A


Reflect over y-axis
Pre-Image
Translate (+2, -20)
Rotate 90° CC (-y, x)


Pre-image
Reflect