Name: Date: Period:

Picture Transformation Project (Quiz Grade)

Step 1: Creating your pre-image: You will need to draw a pre-image of a picture that has 16 or more points in Quadrant I. Your pre-image should be completely inside Quadrant I on the coordinate plane.

- Think creatively!! I am asking for more than randomly plotted ordered pairs and lines. Create some sort of image. Use your resources for inspiration. (Be careful—if you have straight lines, then use a ruler. Do not have an image with all curved lines!)
- Draw your pre-image by plotting points at all of the vertices, **labeling** them alphabetically either clockwise or counter-clockwise. **List** the points and ordered pairs on the **Transformation Data** (TD) sheet.
- Once you have completed your pre-image—labeled and listed on the TD sheet—**you must ask me to evaluate your pre-image for approval.**

Step 2: Creating your transformations

- AFTER your PRE-IMAGE IS APPROVED, you will need to accurately **translate**, **reflect**, **dilate, or rotate** your image across the three remaining quadrants in your coordinate plane. (You must pick a **different** transformation each time!)
- It doesn't matter which quadrant you then transform to next (Quadrant II, III, or IV). It is your choice.
- Each transformation, MUST build off of the last transformation.
- Utilizing the TD sheet, show how each transformation maps one ordered pair to its image by:
    - Identifying which Quadrant you moved to next.
    - State which type of transformation you used. Be specific!! (Do not just write "Translate", "Reflect", "Dilate" or "Rotate". For translating, you need to include which direction (right/left) and how many units. For reflecting, you need to include the line of reflection. For dilation, you need to include your point of dilation and how much you dilated by. For rotation, you need to include the direction a rotation and by how many degrees.)
    - Write a general rule in arrow notation for each transformation and each corresponding ordered pair.

Step 3: Finalizing your project

- Next, you will color code the images (by Quadrants) to make your mathematical art pop!
- Please make sure all labels are still very visible after coloring—if I cannot see your labels, I cannot give you credit!
- Finally, review the checklist/rubric, evaluating your work. Do not turn in a project until you can honestly self-assess a good score.
- Turn in 3 sheets: completed rubric/checklist, transformation graph and **Transformation Data** (TD) sheet.