Math 2 Barnyard Wall Art: Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is a Barnyard Quilt? Barn Quilts are painted quilt squares that are usually painted on boards and then mounted on a barn or other building. They are made of blocks of simple geometric shapes that are reflected, rotated, translated and dilated. Their large shapes make them easy to enjoy from a distance.

Examples can be found at:

<http://www.heritagebarnquilts.com/Quilt-Pattern-Gallery.html>

Your Assignment:

On graph paper you will take geometric shapes of your choosing. You will then transform the shapes as follows. You may use more than one geometric shape to create your design.

Your design must have:

* + At least 10 transformations total
  + At least 1 translation
  + At least 3 **different** reflections with the line of reflection listed
  + At least 2 **different** rotation with the degree of rotation listed
  + At least 1 composition of functions
  + 3 transformations of your choice
  + Coloring should make sense with transformations and design
  + Design should fill up the whole square

After completing the design on graph paper you will transfer your image to white paper and color it.

 You will turn in:

* The design on graph paper
* Your design on white paper
* A list of the transformations used
  + This will included the type of transformation
  + The coordinates of the pre-image and image
  + Either the line of reflection, degree of rotation, scale factor or translation rule

**DUE: \_\_\_11/20/17\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Rubric:**

**Correctness:**

**4 pts-** for every correct transformation graphed, including a list of the correct transformation and shape translated. There must be **AT LEAST** 10 transformations.

1 translation and translation listed

3 different reflections and line of reflection listed

2 rotation and degrees of rotation listed

1 composition

3 other transformations of your choice, notations listed.

**Creativity:**

**10 pts -**The student has demonstrated superior creativity, leaving “their mark” on the assignment. The colors and shaped used create a unique design that is pleasing to look at.

**7pts** - The student has demonstrated some creativity. The design is colorful and unique.

**5pts** – The student has demonstrated some creativity with the design and color

**3 pts** – The student has created a design that is not unique or does not use color in a thoughtful manner.

**0 pt** - The student has not made any effort to differentiate his or her own work from others’ work.

**Neatness:**

**5 pts –** Final result is neat and of presentation quality. There are no stray or eraser marks. The final graph and its transfer onto white paper fills the entire square. The list of transformations and notations is legible.

4 **pts** - Final result is neat. There are minor stray or eraser marks. The final graph and its transfer onto white paper fills the entire square. The list of transformations and notations is legible.

**3 pts** - Final result is somewhat neat. There are some stray or eraser marks. The final graph and its transfer onto white paper fills the entire square. The list of transformations and notations is legible.

**2 pts** - There are many stray or eraser marks . The final graph and its transfer onto white paper does not fill the entire square. The list of transformations and notations is mostly legible.

**1 pt -** Final result is not neat and of presentation quality. There are many stray or eraser marks. The final graph and its transfer onto white paper does not fill the entire square. The list of transformations and notations is not legible.

**Transformation List**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Transformation Type | Pre-image Points | Image Points | Rule | Drawn Correctly |
| Translation |  |  |  |  |
| Reflection |  |  | Line of reflection: |  |
| Reflection |  |  | Line of reflection: |  |
| Reflection |  |  | Line of reflection: |  |
| Rotation |  |  | Degree of rotation: |  |
| Rotation |  |  | Degree of rotation: |  |
| Composition |  |  |  |  |
| (your choice) |  |  |  |  |
| (your choice) |  |  |  |  |
| (your choice) |  |  |  |  |

Points earned \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Grade \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

