

Honors Geometry

Problem of the Week #4 — Similarity. Scale Drawing or Dilation

Due Thursday February 7th, 2019 at the start of class

POW is worth 20 points.

Option 1: Scale Drawing

Prepare a scale drawing on an 8.5" x 11" (or larger) piece of paper, using any appropriate picture. Drawing will be completed by superimposing a 1 cm grid on the picture, and a scaled up, proportional grid on the larger paper. If your dilation is not at least 8.5" x 11", you will lose points.

The scale to be used for the grids can be determined as follows:

This factor will give you a poster width of x inches and a poster length of 11 inches. Now determine your scale factor.

Draw a grid of 1cm x 1cm squares on your picture. Draw a grid on your 8.5" x 11" paper using the scale factor you determined. Be very accurate. Spot check your lines to be sure you still have them 1cm x 1cm all the way across the page. The lines and shapes from each small block on the picture will be sketched on the corresponding larger block on the 8.5" x 11" paper. Color (or shading if it is black and white) will be added to enhance the drawing. DO NOT erase the grids. Make sure they are still visible on the final draft.

Staple your original picture to the corner of your final draft.

Option 2: Dilation Project

For this project you will create a dilation of a small picture (or your name in block lettering). You may use any scale factor you would like, as long as it fits on nothing larger than a standard poster board. State the scale factor you use.

Your design must be colored neatly.

The lines that were used for the dilation must be seen, but drawn lightly in pencil, as to not distract too much from the rest of the poster.

The center of dilation (or vanishing points) must be clearly visible.

FOR BOTH CHOICES

- Include the original image when you turn in your project
- State the scale factor you used on the back of the project
- Put your name on the back of the project
- No traditional write up is required

*up to ten points of extra credit may be given for obvious extra effort and complexity of the drawing.