

Reflective Portfolio for Mth171 – Geometry for Elementary Teachers

Please include a copy of this cover page as an attachment to your portfolio.

Task Overview: For this assignment, you will reflect upon your experience in the course and use a portfolio format to demonstrate some of the most important things you've learned. You can do your portfolio in an electronic format (like a website) or it can be in a folder or notebook (perhaps with a disk to accompany it). Constructing the portfolio is intended to help you reflect upon and solidify some of what you've learned in the course.

Course Objectives: Recall the course objectives, as outlined on your syllabus:

- Formulate and test conjectures about geometric principles and relationships.
- Provide formal and informal arguments about geometric principles.
- Use ruler and compass constructions and Geometer's Sketchpad to illustrate and explore geometric conjectures.
- Describe and analyze the properties of pyramids, prisms, and other three dimensional figures, including the Platonic and Archimedean solids.
- Apply transformations to 2D and 3D objects and describe and analyze the effects of those transformations.
- Describe and analyze the similarities and differences between Euclidean geometry and other non-Euclidean geometries, including the taxicab geometry and spherical geometry.
- Reason about topological properties such as connectedness, orientability, and dimension.

HPL Tutoring Connection: If you have volunteered for the HPL tutoring experience with Andy Maxwell, then you may add the following course objective: "Work with and support the intellectual growth of high performance learners, providing a challenging and supportive learning experience for these students."

For your portfolio you must select at least four of the course objectives and demonstrate how you have met them in the course*. You should clearly list which course objectives you are attempting to illustrate.

Evidence: You may include the following types of evidence:

- 1) Examples of your best work with short descriptions of why you selected the work and what it shows about how you've met the objective. Your descriptions can be a paragraph or two on a separate page or you can write them on large post-it notes.
- 2) Examples to show improvement on a particular math topic (e.g. a "before" and "after," with possibly some "intermediate steps.") along with a description of how these show improvement.
- 3) Work that you write specifically for the portfolio. If you don't have evidence from work you've turned in or your notes, you can also write new reflection(s) for the portfolio.
- 4) Computer files, including Geometer's Sketchpad sketches. If you are submitting a mostly printed portfolio with some digital content, you should include a printed page for each digital item that summarizes its content and directs the reader to access it. You should also include descriptions of how these items relate to the course goals.
- 5) IF you are doing HPL tutoring: A 500- to 1000-word written reflection about your HPL tutoring experience. Your reflection should reference at least two specific experiences (please use pseudonyms when referring to students) and conclude with a brief summary of how you have grown as an educator or what you have learned about working with high performance learners.
- 6) Other relevant items not listed here. (You may wish to check with me first.)

Assessment Rubric: This assignment will be graded as follows:

- Level 5: (max 50 points) Goes beyond a level 4. For instance, some pieces of evidence may be exemplary or deeply insightful, or ample evidence is provided for more than four course objectives.
- Level 4: (max 40 points) Portfolio is well-organized and well-written and provides ample evidence that the student has met at least four of the course objectives.
- Level 3: (max 30 points) Portfolio is generally well-organized and gives evidence that the student has met four of the course objectives,
 - OR portfolio is well-organized and gives evidence of four objectives but contains some pieces that are not very well-written or not very insightful,
 - OR portfolio is well-organized but gives evidence of only three of the course objectives (or equivalent).
- Level 2: (max 20 points) Portfolio is somewhat organized and provides evidence that student has met two of the course objectives (or equivalent).
- Level 1: (max 10 points) Portfolio shows some evidence of meeting some goals of the class.