

Math 1 Individual Project: Review of Units 3 and 4
Masha Albrecht Berkeley High School

Math 1

This project is due _____ and is worth _____

You will work on this project during class on _____

You will share this project with the class on _____. You will not be graded during your presentation.

Your product can be in any form: a booklet, a poster, an electronic document, video, ... You will be graded on the quality of your product, so take your time, and make something you enjoy.

Similar to previous projects, you will invent a story, graphic design, set of dance steps, musical sequence, poem, or take a photo or make a drawing or create a video of something you have seen or found. Make sure you can generate **two** sequences of numbers from whatever you find or create. You will analyze this sequence using the skills of units 3 and 4.

You should organize your work in any way you wish, but make sure your finished project contains:

1. ____ A story, design, piece of music, set of dance steps, 3D art, or video.
2. ____ **Two** number sequences that match your choice in 1.
3. ____ the connection between each number sequence and your choice in 1.
4. ____ A comparison between the rate of change of each sequence.

For each sequence, include:

5. ____ An explanation of whether the sequence is geometric, arithmetic, or neither.
6. ____ An explanation of whether the set of numbers is essentially discrete or continuous
7. ____ A recursive formula that describes the sequence.
8. ____ An explicit formula that describes the sequence.
9. ____ Does a linear function model the sequence? Does an exponential function model it? Explain.
10. ____ A graph (you may graph the sequences together or separately)

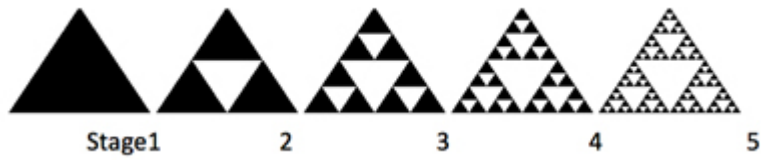
Finally, include:

11. ____ A sentence or two explaining what you enjoyed the most about this project.
12. ____ A sentence or two explaining what was most difficult about this project.

Extra credit for especially innovative designs and especially difficult sequences.

Project Practice and Preview

This image shows successive stages of the Sierpinski Triangle. At stage infinity, this is a special example of something called a “fractal”. These stages were made using a graphics program.



Use this graphic as a sample project idea. Now follow the project guidelines.

Problem Set Grading Rubric Description

	3	2	1
Correctness	All the mathematics is correct.	Much of the mathematics is correct.	Some of the mathematics is correct.
Presentation	You have a clear, elegant, and carefully completed design. You have put in significant effort. Somebody not in our class could read your work and understand it completely. You use clear diagrams, helpful text, and your work is neat.	Your design shows some good effort. Only a math teacher could understand your work completely. You have some diagrams and text but it is sometimes hard to follow.	Your work is sloppy or rushed. Not even your math teacher can understand your work completely. You have few or no diagrams or helpful text.
Completeness	You have completed thoroughly every part of the project.	You have completed or attempted most of the project.	You have answered or attempted only some of the project.
Thoughtfulness	You have shared your own original insight into the mathematics. Your ideas are unique and show your strategies and thinking. You have made an attempt to see beyond the project.	You include some thoughts explaining your ideas and problem solving.	Your work shows little reflection on your process or ideas.

Extra credit for an unusual design _____

Extra credit for especially difficult mathematical content _____

Total (out of 12) _____ Grade _____