

Name _____

Summer Math Project – 2022

It is important to practice our math skills over the summer months. It is also important to spend some time relaxing, being with family and enjoying the warm weather.

Therefore, instead of a packet of pages of problems, I would like each family to spend 1 day each month (June, July and August) exploring math concepts.

June: Art – Apollonian Gaskets

1. Check out the examples on the page. Watch the youtube video:
https://youtu.be/aKmc_HcoYis
2. Time to create! Make your own. Start with 2 different outer shapes.
3. Compare with a family member.
4. Optional: use color for different size circles. What do you notice?

July: Symmetry Nature Walk

1. Go on a walk with your family!
2. Find some items that show reflection and rotational symmetry.
3. Either take a photo and print out or make a sketch on your example page

August: Sprouts Game

1. Play a game with your family. You need 2 different color pens or pencils and paper.
2. Play Spouts three times. Start with a different number of spots. The instructions are on the August page.
3. Attach your game pages to this packet.
4. Write a sentence or two about any strategies you had while playing.

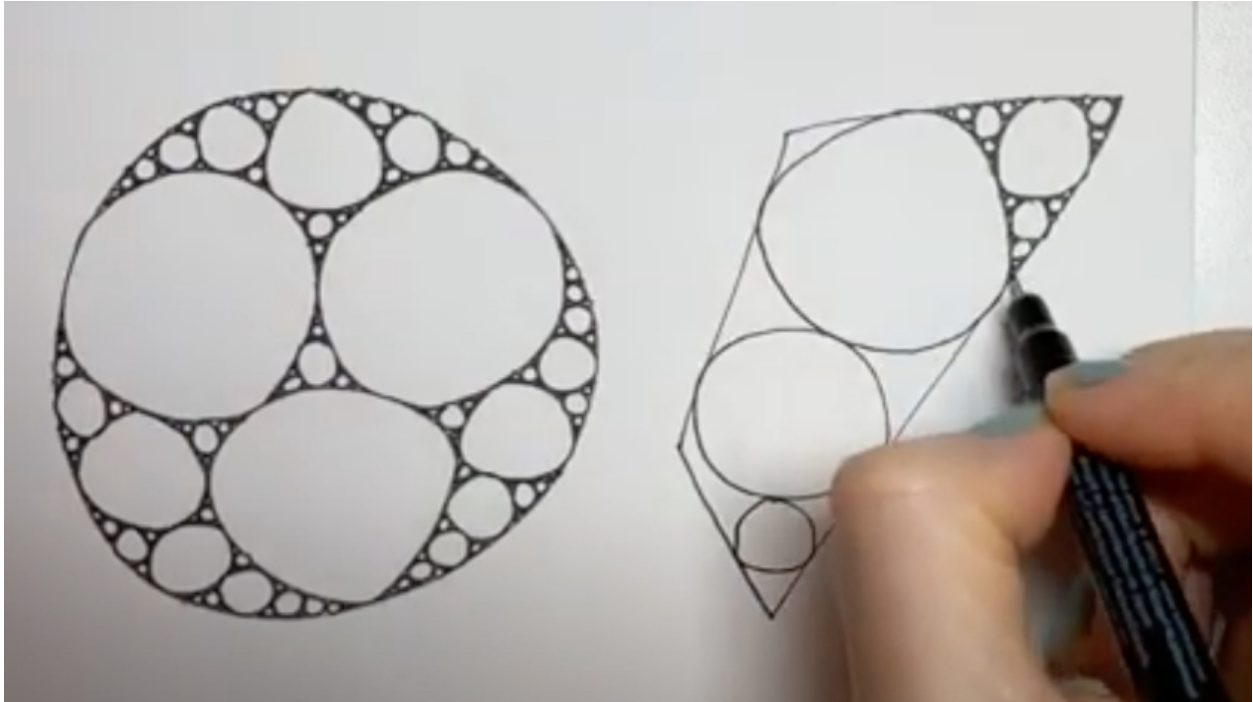
Finally, enjoy your summer!

Mrs. Ensminger and Ms. Rowley

Return your packet to your Math teacher by Friday, September 9

June: Art - Apollonian Gaskets

https://youtu.be/aKmc_HcoYis



The Project: Draw a large shape. Then place a large circle inside that shape, touching at least one edge of the original shape. Then draw the next largest circle you can, and repeat drawing the next largest circle you can.

Do this with at least 2 different starting shapes to create 2 pieces of art.

Attach your art to this packet.

July: Symmetry Walk

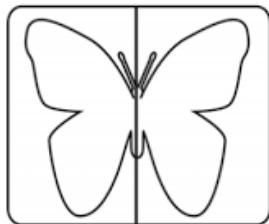
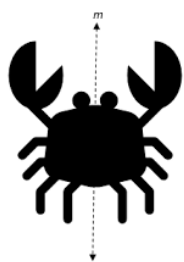
There are 2 types of symmetry – reflection and rotational symmetry.

In reflection symmetry, one half of an item is the mirror reflection of the other side.

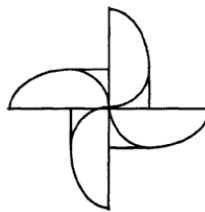
In rotational symmetry, you can rotate an item and it still looks the same. Here are some examples:

Some things may have both types of symmetry!

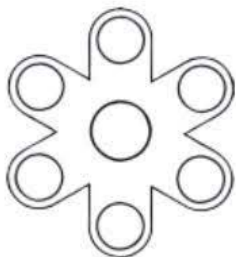
Reflection:



Rotation:



Both:



Examples I found on my walk:

Rotational	Reflection	Both

August - Sprouts Game

Instructions: <http://www.papg.com/show?1TMQ>

Rules:

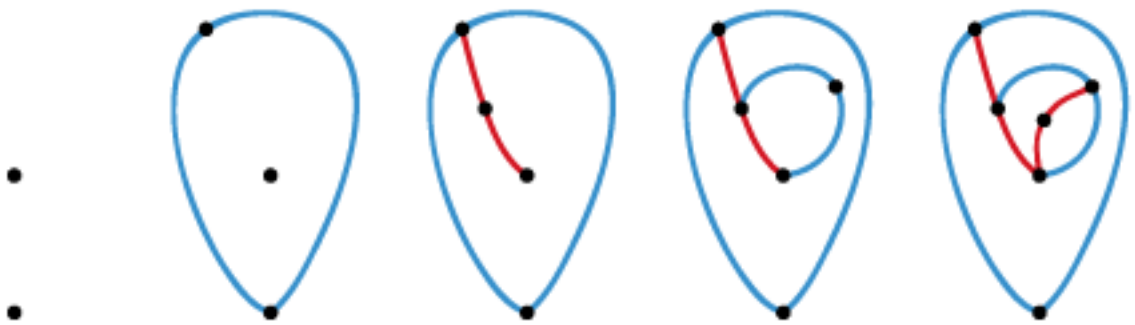
Start by drawing two or more spots on a piece of paper.

Players then take turns to make a move, according to the following rules:

- Draw a line joining two spots, or a single spot to itself. The line must not cross another line or pass through another spot.
- Draw a spot on the new line.
- No more than three lines can emerge from any spot.

The last player to be able to move wins.

Sample Game with 2 starting spots:



Example game on youtube: <https://youtu.be/4DDHbRUvwy0>

My strategies for playing sprouts:
