

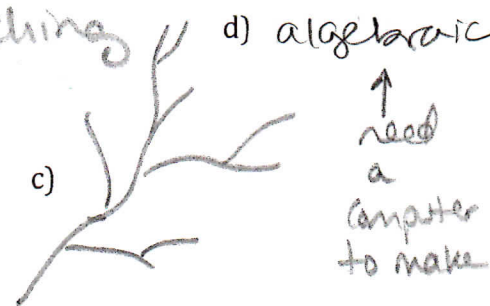
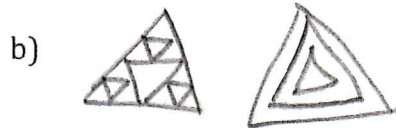
Name: _____

Fractal Triangles

1. Write one sentence that describes what a fractal is. Include some of the following: repeated or never-ending pattern; something simple that, when repeated over and over gets complicated; gets larger or smaller
2. What are four types of fractal patterns that you learned about?

- a) spiral - twists and grows
 b) geometric shapes
 c) branching
 d) algebraic

3. Draw an example of three types of fractal patterns.



4. What type of fractal pattern is a triangle?

geometric

5. What does "tri" stand for? 3

6. Start filling in the table below using the triangle on the next page. How many times have you made a pattern in your triangle at this point? None? How many triangles do you have? Fill that in the middle column of your table.

Number of times you've drawn the triangle pattern	Number of triangles that are not colored in	Math notation (fill in the blank)
0	1	$3^0 = 1$
1	3	$3^1 = 3 \times 1$
2	9	$3^2 = 3 \times 3$
3	27	$3^3 = 3 \times 3 \times 3 = 3 \times 9$
4	81	$3^4 = 3 \times 3 \times 3 \times 3 = 3 \times 27 = 9 \times 9$

Next, make a dot in the middle (or midpoint) of each line and connect your three dots. Color in that triangle. Now fill in the second line of your table and write in the math notation.

Do this over and over again until you are done with the activity, filling in the table as you go.

Fractals are SMART: Science, Math & Art!

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