📝 10.2 - infinite series & koch snowflake

$\frac{1}{2}absinc$

Name:

Koch Snowflake:

(the full snowflake has 6 sides with that design)

How do the perimeter and the area of the Koch snowflake change, as we add more levels to the snowflake?

Shape	Iteration	Length of Each Segment	Number of Segments	Total Length (Perimeter)	Area of Each Added Triangle	Number of Added Triangles	Total Newly-Added Area	Total Area Inside Triangles
	1	1	4	4	$\sqrt{3}/4$	1	$\sqrt{3}/4$	$\sqrt{3}/4$
	2	$1/3$	16	$16/3$	$\sqrt{3}/36$	4	$\sqrt{3}/9$	$\sqrt{3}(\frac{1}{4} + \frac{1}{9})$
	3	$1/9$	64	$64/9$	$\sqrt{3}/324$	16	$\sqrt{3}/20.25$	$\sqrt{3}(\frac{1}{4} + \frac{1}{9} + \frac{1}{20.25})$
	$\lim\limits_{n \to \infty} \text{Perimeter} = \infty$				$\lim\limits_{n \to \infty} \text{Area} = \dfrac{\frac{\sqrt{3}}{4}}{1 - 4/9}$			

In general, what happens to perimeter as we add more levels?
What happens to area?