Level Number	Edge Length	Number of edges	Total length
0	3	1	3
1	1	4	4
2	$\frac{1}{3}$	16	$\frac{16}{3} = 5.\overline{3}$
3	$\frac{1}{9}$	64	$\frac{64}{9} = 7.\overline{1}$

Table 2. Data for the Koch curve pre-fractals

The table shows that as the level increases by 1, the edge length decreases by a factor of $\frac{1}{3}$, the number of edges increases by a factor of 4, and the perimeter increases by a factor of $\frac{4}{3}$. This suggests that the lengths of the pre-fractals become larger and larger, and so the total length of the fractal itself is infinite, even though the distance between the endpoints of the fractal is just 3 units.

Example 2   The Sierpiński gasket

Instead of using a segment for an initiator, start with an equilateral triangle. Replace the triangle with three triangles similar to the original with a scale factor of $\frac{1}{2}$. The sequence of pre-fractals is shown below. This fractal is called the *Sierpiński gasket*. Table 3 gives data for pre-fractals of the Sierpiński gasket.
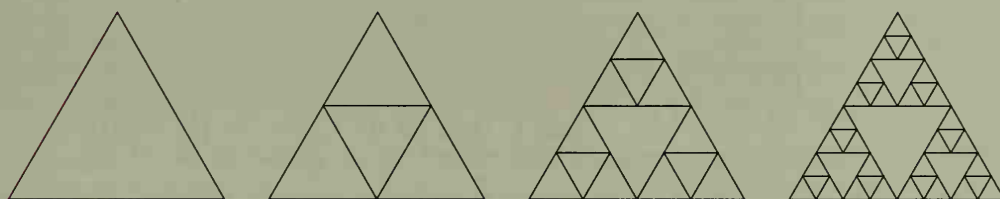
Level Number	Edge Length	Number of edges	Sum of lengths
0	1	3	3
1	$\frac{1}{2}$	9	$\frac{9}{2} = 4.5$
2	$\frac{1}{4}$	27	$\frac{27}{4} = 6.75$
3	$\frac{1}{8}$	81	$\frac{81}{8} = 10.125$

Table 3. Data for the Sierpiński gasket pre-fractals