An Iterative Process Applied to Equilateral Triangles Resulting to the Identity 1/3+1/9+1/27+…=1/2.

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Abstract

In this paper, we define a particular iterative process and apply it to triangles. It was shown that the process results to self-similar triangles if and only if the generator triangle is an equilateral triangle. Furthermore, the identity

$$\frac{1}{3}+\frac{1}{9}+\frac{1}{27}+\cdots=\frac{1}{2}$$

resulted from the process.

Keywords: *iterative process, equilateral triangles*