[11-05-25-T12]

Cantor set

The Cantor set named after Georg Cantor (1845-1918) is constructed as follows. Begin with the closed interval [0, 1] and delete the open interval $(\frac{1}{3}, \frac{2}{3})$. That leaves two intervals $[0, \frac{1}{3}]$ and $[\frac{2}{3}, 1]$ and we delete the open middle third of each. At each step, delete the open middle third of each of the intervals that remain after the previous step. Continue to do this indefinitely. The Cantor Set is the set of numbers that remain in [0, 1] after all those intevals have been deleted.

How large is the Cantor Set?

Can you give some examples of numbers in the Cantor Set?

What is the total length of all the intervals that have been removed?