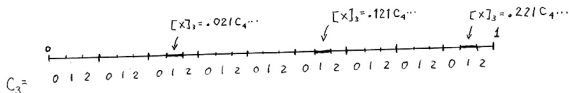
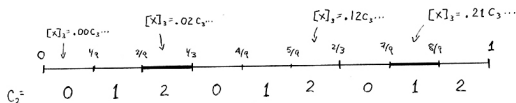
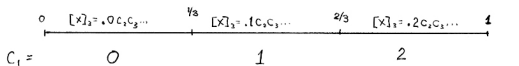


Ternary expansion: $[x]_3 = .c_1 c_2 c_3 c_4 \dots$

$c_i = 0, 1 \text{ or } 2$

May 19



Note: If $[x]_3 = .c_1 c_2 \dots c_n | a_{n+1} a_{n+2} \dots$
 $[y]_3 = .c_1 c_2 \dots c_n | d_{n+1} d_{n+2} \dots$
same

then $|x - y| \leq \frac{1}{3^n}$

In the Cantor set C construction, the intervals containing those numbers that have a '1' in their ternary expansion were removed
 $\rightarrow C$ is the set of numbers that have no '1' in their ternary exp.

Exercise: Locate on the line, the interval that contains all numbers x where $[x]_3 = .0121 \dots$
arbitrary

That is, where are the numbers whose ternary expansion begins with 0121?

How about if $[x]_3 = .2\overline{22}$?
 or $[x]_3 = .2\overline{11}$?

(You can sum the geometric series too)