

Partition

1. Definition

↳ Set.

A partition of the interval $[a, b]$ is a set P such that:

① P is finite

② $P \subseteq [a, b]$.

③ $a \in P$ and $b \in P$

e.g. Partitions of $[0, 1]$.

$$P_1 = \{0, 0.2, 0.5, 0.7, 1\}; P_2 = \{0, 1\}.$$

$$P_3 = \{0, \frac{1}{5}, \frac{2}{5}, 1\}; P_4 = \{0, \frac{5}{7}, 1\}.$$

① Convention: When we write $P = \{x_0, x_1, x_2, \dots, x_N\}$, implicitly mean $a = x_0 < x_1 < x_2 < \dots < x_N = b$.

(better)

2. Finer Partition

Let P and Q be partitions of the interval $[a, b]$.

We say that Q is finer than P when $P \subseteq Q$.

e.g. $Q = \{0, 0.2, 0.7, 0.8, 1\}$; $P = \{0, 0.2, 1\}$.

$$P \subseteq Q.$$





