

# Analysis Notes

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# Chapter 1

## Measure Theory

### 1.1 Preliminaries

Note: Understand the analogy between measuring "volume" and the concept of this section.

Note: Every open set in  $\mathbb{R}$  is a countable union of disjoint open intervals. Every open set in  $\mathbb{R}^d$ ,  $d \geq 2$ , is almost the disjoint union of closed cubes. Almost means that only the boundaries of the cubes can overlap.

**Point**