

1.5 Cantor's Theorem

Cantor's Diagonalization Method

Cantor initially published his discovery that \mathbf{R} is uncountable in 1874, but in 1891 he offered another simpler proof that relies on decimal representations for real numbers.

THEOREM 1.5.1. *The open interval $(0,1) = \{x \in \mathbf{R} : 0 < x < 1\}$ is uncountable.*