Miscellaneous Trivialities

https://github.com/Nazgand/nazgandMathBook

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June 12, 2023

Abstract

The goal of this paper is to have fun with trivial facts.

$$\mathbb{R} = \left\{ x_0 - x_1 \mid k \in \mathbb{Z} \Rightarrow x_k \in \mathbb{R}^+ \right\} \tag{0.1}$$

$$\left[k \in \mathbb{Z}^+ \Rightarrow v_k - 1 \in \mathbb{Z}^+\right] \Rightarrow \left\{x \mid x \in \mathbb{R}, 0 \le x, x \le 1\right\} = \left\{\sum_{k \in \mathbb{Z}^+} d_k \prod_{m=1}^k v_k^{-1} \mid \left[k \in \mathbb{Z}^+ \Rightarrow d_k + 1 \in \mathbb{Z}^+\right], d_k < v_k\right\} \tag{0.2}$$

$$\mathbb{C} = \left\{ x_0 \exp(ix_1) + x_2 \exp(ix_3) \mid [k \in \mathbb{Z} \Rightarrow x_k \in \mathbb{R}], \frac{x_1 - x_3}{\pi} \notin \mathbb{Z} \right\}$$
 (0.3)

$$\left\{ m_0 + m_2 \exp\left(\frac{i\pi}{3}\right) \mid [k \in \mathbb{Z} \Rightarrow m_k \in \mathbb{Z}] \right\} = \left\{ m_0 + m_2 \exp\left(\frac{i2\pi}{3}\right) \mid [k \in \mathbb{Z} \Rightarrow m_k \in \mathbb{Z}] \right\}$$
 (0.4)