

# One Note Samba

$$1 = B^b$$

*Jobim*

Diagram illustrating the 7-addend decomposition of  $3^7$ . The number  $3^7$  is represented as a sequence of 7 blocks, each labeled '5'. This is followed by a vertical line, then  $b_3^7$ , then another vertical line, then  $2^{-7}$ , then another vertical line, then  $\#_1^7 \text{ add } \#_1^1$ , and finally two blocks labeled '1'.

Diagram illustrating the 7th power of the 5-adic integers,  $\mathbb{Z}_5^7$ . The diagram shows a horizontal line with vertical tick marks. Above the line, there are blue rectangular blocks labeled '1' and '5'. Below the line, there are labels for the corresponding powers of 5:  $5^{-7}$ ,  $1^7$ ,  $4^{\Delta 7}$ , and  $b_7^7$ . A diamond symbol is placed above the line between the  $4^{\Delta 7}$  and  $b_7^7$  blocks.

Diagram illustrating a sequence of numbers (1, 2, 3, 4, 5, 6, 7) arranged in a zig-zag pattern across four vertical lines. The numbers are colored blue or white, and some are highlighted with a blue background.

- Line 1: 1 (blue), 2 (blue), 3 (blue), 4 (blue), 5 (white), 6 (white), 7 (white).
- Line 2: 1 (white), 2 (white), 3 (white), 4 (white), 5 (white), 6 (white), 7 (white).
- Line 3: 1 (white), 2 (white), 3 (white), 4 (white), 5 (white), 6 (white), 7 (white).
- Line 4: 1 (white), 2 (white), 3 (white), 4 (white), 5 (white), 6 (white), 7 (white).

Labels below the lines:

- Line 1:  $4^{-7}$
- Line 2:  $b_7^7$
- Line 3:  $b_3^4 7$
- Line 4:  $b_3^4 7$

