

### Solution to the puzzle.

This is a distorted grid connecting the points

$$z_{ij} = u_0 + u_1 + \cdots + u_{i-1} + v_0 + v_1 + \cdots + v_{j-1} \quad \text{for } 0 \leq i, j \leq 64,$$

where  $u_k = e^{ia_k\pi/9}$  and  $v_k = e^{ib_k\pi/9}$  and we have

$$\pi = (a_0a_1a_2.a_3a_4a_5a_6\dots)_3 = (010.011\bar{1}\dots)_3, \quad e = (b_0b_1b_2.b_3b_4b_5b_6\dots)_3 = (010.\bar{1}011\dots)_3$$

in the balanced ternary number system.

(I discussed this representation of  $\pi$  during my Christmas lecture, 05 December 2019.)