

$\mathbb{Z} \in \mathbb{N}^2$ abel unit

idem $\mathbb{Z}^2 = \mathbb{Z}$

$$\mathbb{Z}^2 = \mathbb{Z} \Rightarrow 2\mathbb{Z} = o$$

$$\mathbb{Z} + e = \overbrace{\mathbb{Z} + e}^2 = \mathbb{Z}^2 + 2\mathbb{Z}e + e^2 = \mathbb{Z} + 2\mathbb{Z} + e \Rightarrow 2\mathbb{Z} = o$$