

$\mathbb{Z}$  $n=2$ 

$$a \mathcal{R} b \iff \underline{a-b} = \underline{km}$$

$$a-b = 2k \Rightarrow a = b + 2k$$

$$a = 2k + b$$

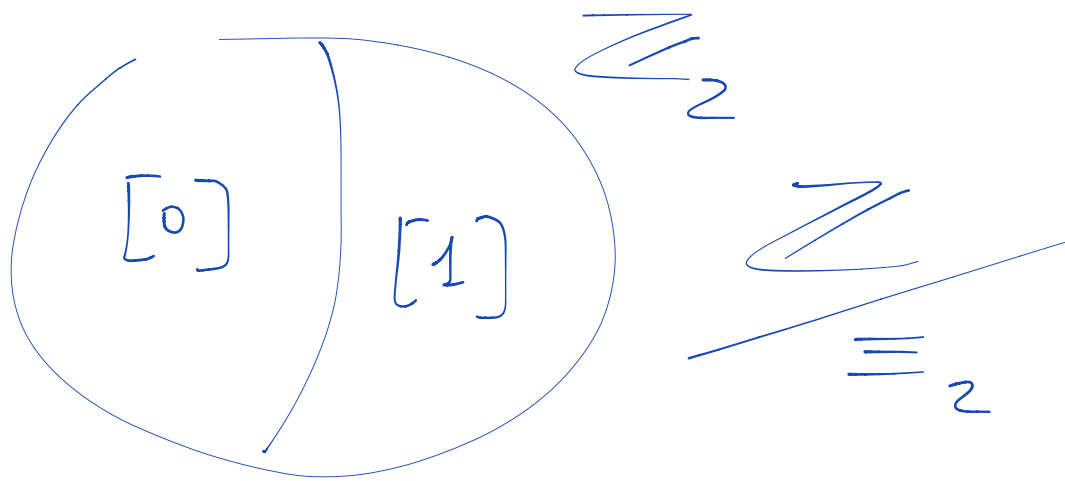
$$a = \bar{b}q + r$$

$$0 \leq r < b$$

$$r = 0, 1$$

$$[0] = \{0, 2, 4, 6, 8, 10, \dots\}$$

$$[1] = \{1, 3, 5, 7, \dots\}$$



$$a \equiv b \pmod{2}$$

$$a - b = 2k$$

$$\mathbb{Z}/2\mathbb{Z} = \{[0], [1]\} = \{\bar{0}, \bar{1}\}$$

$$\bar{1} + \bar{1} = \bar{2} = \bar{0}$$

$$\bar{1} + \bar{3} = \bar{4} = \bar{0}$$

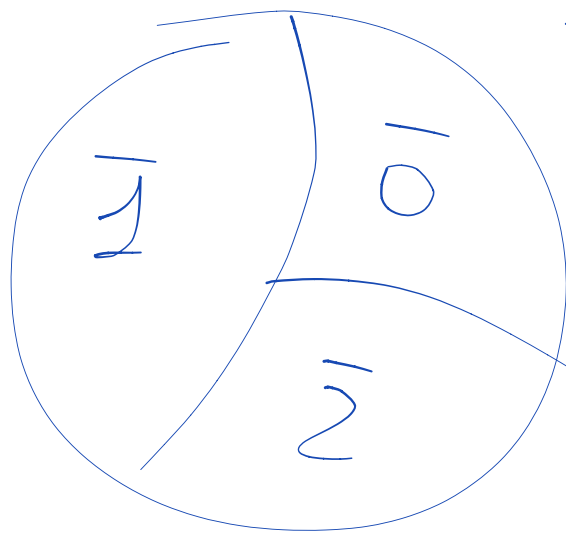
$\mathbb{Z}_3$ 

$$a \equiv b \pmod{3}$$

$$\mathbb{Z}_3 = \{ \overline{0}, \overline{1}, \overline{2} \}$$

$$\overline{3} + \overline{5} = \overline{8} = \overline{2}$$

$$\begin{array}{r} 8 \\ \textcircled{2} \overline{) 3} \\ \underline{2} \end{array}$$



$$\mathbb{Z}_4 = \{\bar{0}, \bar{1}, \bar{2}, \bar{3}\}$$

$$\bar{2} \times \bar{2} = \bar{4} = \bar{0}$$

$$\bar{4} \times \bar{4} = \bar{16} = \bar{0}$$

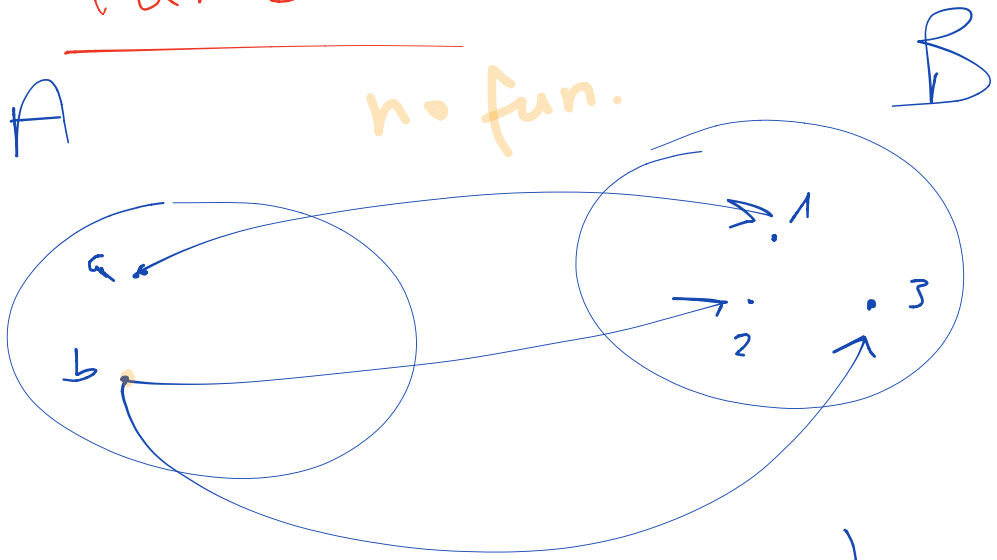
$$\bar{5} \times \bar{4} = \bar{20} = \bar{0}$$

$$\bar{3} \times \bar{3} = \bar{9} = \bar{1}$$

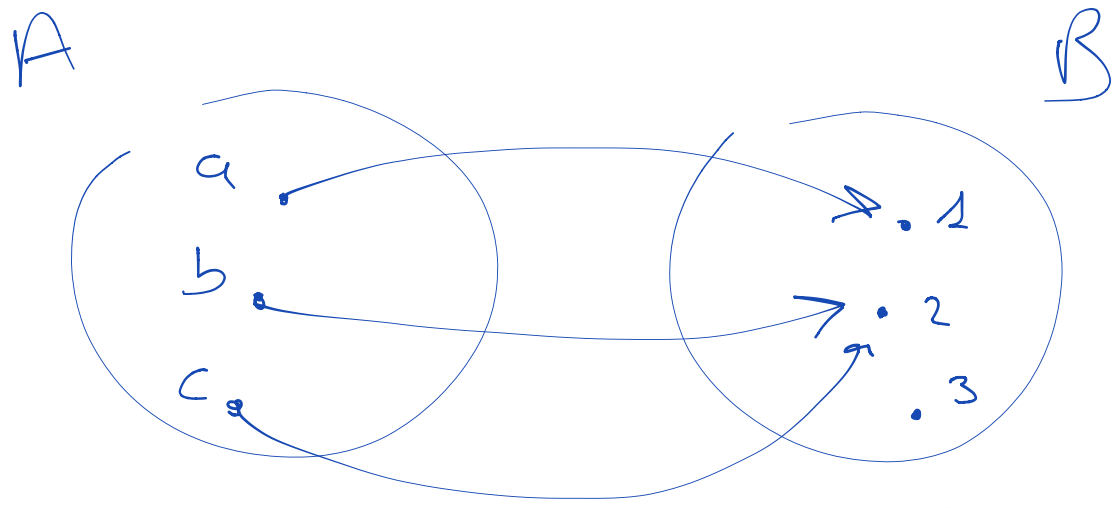
$$\begin{array}{r} 9 \overline{) 4} \\ 1 \quad 2 \end{array}$$

$$\begin{array}{r} 4 \overline{) 1} \\ 0 \quad 4 \end{array}$$

funzioni



$$R = \{ (a; 1), (\underline{b}; 2), (\underline{b}; 3) \}$$



$$R = \{ (a; 1), (b; 2), (c; 2) \}$$

$$f: A \rightarrow B$$
$$x \rightarrow y$$

$$f(x) = y$$

$$y = 2x + 3$$

$$x = 1 \quad y = 5$$

$$(1, 5)$$

$$f(1) = 5$$