

$$\rightarrow A = \{a, b, c\}$$

$$\emptyset \times A = ? \quad A \quad \emptyset$$

why?

$$\{ \} \times \{a, b, c\}$$

\times

(-)

$$\rightarrow |\emptyset \times A| = |\emptyset| \cdot |A|$$

$$= 0 \cdot 3$$

$$= \textcircled{0}$$

$$\rightarrow \text{since } |\emptyset| = 0, \text{ then } \emptyset \times A = \emptyset$$

Axiom

$$\rightarrow \{\emptyset\} \times \{0, \emptyset\} \times \{0, 1\} = R \quad \text{?} \quad \cancel{=} \quad \emptyset$$

$$|\{\emptyset\}| = 1 \quad |\{0, \emptyset\}| = 2 \quad |\{0, 1\}| = 2 \quad \Rightarrow |R| = 1 \cdot 2 \cdot 2 \\ = 4$$

$$R = \{(\emptyset, 0, 0), (\emptyset, 0, 1), (\emptyset, \emptyset, 0), (\emptyset, \emptyset, 1)\}$$

HOMEWORK 12:

$$\rightarrow 9, 15, 13, 16, 11, 17, 18, 19$$

→ read subsets