

Axiomas ZF

Extensionality.

$$\forall a \forall b (a = b \leftrightarrow \forall x (x \in a \leftrightarrow x \in b)) \quad (\text{ZF1})$$

Emptyset.

$$\exists e \forall x (x \notin e) \quad (\text{ZF2})$$

Pairset.

$$\forall a \forall b \exists s \forall x (x \in s \leftrightarrow (x = a \vee x = b)) \quad (\text{ZF3})$$

Separation (schema).

Para cada formula $\varphi(x)$ o seguinte:

$$\forall w \exists s \forall x (x \in s \leftrightarrow (x \in w \wedge \varphi(x))) \quad (\text{ZF4})$$

Powerset.

$$\forall a \exists s \forall x (x \in s \leftrightarrow x \subseteq a) \quad (\text{ZF5})$$

Unionset.

$$\forall a \exists s \forall x (x \in s \leftrightarrow \exists d (x \in d \wedge d \in a)) \quad (\text{ZF6})$$

Infinity.

$$\exists i (\emptyset \in i \wedge \forall x (x \in i \rightarrow x \cup \{x\} \in i)) \quad (\text{ZF7})$$

Replacement (schema).

Para cada class-function $\Phi(x)$ o seguinte:

$$\text{para todo conjunto } a, \text{ a classe } \{\Phi(x) \mid x \in a\} \text{ é um conjunto.} \quad (\text{ZF8})$$

Foundation.

$$(\forall a \neq \emptyset) (\exists d \in a) [d \cap a = \emptyset] \quad (\text{ZF9})$$
