Recp.

Axiom of Set Theory
(Is a very axiomatization setting)

- Axiom of Extensionality
- Axiom of Empty set
- Pairing Axiom

\[ \forall x, y, z : (x = y) \Rightarrow (x = z) \]

Existence
For \( a : x \), \( b : y \)

\[ \forall x, y, z : (x = y) \Rightarrow (x = z) \]

Note that if \( a = b \), then \( \langle a, b \rangle = \langle b, b \rangle = \langle a, a \rangle \)

Lemma 1.4 \( \exists \{ \} \)

Axiom of Union \( \forall x, y : \exists z \forall w : (w \in z) \Rightarrow (w \in x) \)

Axiom of Separation: If \( \psi(x) \) is some property formulized

\[ \{ \{ x \in p \} \mid \psi(x) \} \]

Lemma 2.1 For any property \( \psi(x) \) on \( \mathbb{R} \)

\[ \forall x, y : \exists z \forall w : (w \in z) \Rightarrow (w \in x) \]

Intuitively \( a = \bigcap \{ b \mid \psi(b) \} \)

This is not a set in general.
A proof in a non-unique q.

Proof: let there be powers with \( P(c) \).

(1) a if \( a = 1 \) is an element.

\[ a = \{ \text{decide if } b \neq \text{ for all } b \in P(c) \} \]

This is a set by Axiom of Separation.

\[ A = \{ \text{decide if } b \neq \text{ for all } b \in P(c) \} \]

For \( a, b, c \) and \( d, e \) and to be a subset of \( b \).

If \( a \) and \( b \) subset of \( c \) then we denote this by:

\[ a, b, c \text{ and } d, e \text{ are } \subset \text{ to } \]

\[ \{a, b, c \} \text{ and } \{d, e\} \text{ are } \subset \text{ to } \]

\[ \{a, b, c \} \text{ and } \{d, e\} \text{ are } \subset \text{ to } \]

Axiom of infinity. There is a with the following property:

\[ \text{for all } a \in A, \text{ if } b \in A \text{ then } b = \text{ and } a \in A \]

\[ \{1, 2, 3, \ldots \} \text{ or } A \]

Define \( N = \bigcap \{a \mid \forall \} \)

This is the set at \( N \) by Lemma 2.1.

\[ N \text{ satisfies } \}

\[ (a) \text{ and } (b) \]

\[ \text{and this } a \text{ is as desired!} \]
Lemma 7.1 An isotropic (l.c.a.)

(Admit?) every thing is classical ad
Ca be dualized in t

Proof: Ax: For 3 x a there is b x b.

Sah 1 is called the power function of a and written by

b = P(a)
The axiom system consisting of all the axioms introd in the R"amak act theory

(Admit?) every thing is classical ad
Ca be dualized in t

Lemma 7.2 Ab exists.

Post: Assuming that Ab exist.

ce Ab c, the AcAb exist w

ce c, d = [f, g, h]

A B = \{c | (c, d) for all c, d \}

A B = \{ce P(P(A B)) | (c, d) for all c, d \}
For $A, B$ a function $f: A \to B$ is a what $F$ of $A \times B$ etc.

For any $A$ then there is a unique $b_0$ at $c_0 \subseteq F$

If $F$ is a function $f: A \to B$ we denote this by $F: A \to B$

For $a, a'$ in $A$ the $a'$ be $b$ with $a, a' \subseteq F$ is denoted by $F(a)$.

Lemma 2.9 $F, A, B \ni \; x$

at $F_B = \{ F; F: A \to B \}$

Proof: Assuming $A, B$ exists

$F(a) = F(A \times B) = F(P(A \times B))$