Theorem 14.1 (Squeeze Theorem)
For $x \rightarrow 7$ we have
$T \rightarrow T'$

Theorem 3.1

Proof: For any $\epsilon > 0$, we choose $\delta > 0$ such that

$|x - 7| < \delta 
\Rightarrow |T - T'| < \epsilon$


Let $P$ be a point. Then $L(x) = T P$ and $T P$ is linear in $x$ and $T P(x^2) = T P(x^2)$.

Squeeze $(\delta) > 0$

Suppose that the line is a part of $T$ for $x \rightarrow a$. If the line $p$ is $T \rightarrow 0$, then for any $x$ close to $a$, we have $L(x) = T P$

Then $x$ is near $a$, and $T P(x)$ is near $T P(a)$.
Let $T$ be a consistent set of sentences. Then $T$ is consistent if there is no contradiction in $T$.

1. If $T$ is consistent, then for any sentence $A$, $T \cup \{A\}$ is consistent.

2. Let $T = \{ \forall x (P(x)) \}$ in $T$. We want to show that $T$ is consistent.

3. Suppose $T$ is inconsistent. Then $T \cup \{ \forall x (P(x)) \}$ is consistent.

4. Thus, $T$ is consistent.

5. If $T$ is consistent, then $T \cup \{ \neg \forall x (P(x)) \}$ is consistent.

6. Therefore, $T$ is consistent.

7. $T_1 = \{ \forall x (P(x)) \}$ is consistent.

8. Suppose $T = \{ \forall x (P(x)) \}$ is consistent. Then $T \cup \{ \neg \forall x (P(x)) \}$ is consistent.

9. Thus, $T$ is consistent.

10. Therefore, $T$ is consistent.
Let \( T = \{ 0 \}, T^* = \{ 1 \} \). Then \( \phi(0) \in T \) and \( \phi(1) \in T^* \).

For \( a, b \in C \) at \( a \in C \cap \phi(0) \cap \phi(1) \).

Claim: \( T \) is an equivalence relation.

\[ T \mid T \mid \text{transitive} \]

By Lemma 14.5, \( \phi(0) \cap \phi(1) \) is an equivalence class.

Let \( a, b \in \phi(0) \cap \phi(1) \). Then \( a \equiv b \).

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Proof of Claim 2(a): By Lemma 14.5,

\[ A = \{ C \mid C \in \phi(0) \cap \phi(1) \} \]

The equivalence class of \( C \) modulo \( T \).

For \( a \in T \) let \( C_0 = \{ a \} \). Then \( C_0 \in \phi(0) \cap \phi(1) \).

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Lemma 14.6: \( (C_1, C_2) \in T \) if \( C_1 \cap C_2 = \emptyset \).

Proof by induction on \( C \).

In particular, \( a \in T \) is a representative of \( T \).