

t12_cqc_the1
(TMT3RqjzckQ6aMCoQE4f2ukrBSYu9R9kg7v)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_cqc_lang : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k8_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_cqc_the1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_cqc_the1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_cqc_lang : \iota \Rightarrow \iota$ be given. Let $k6_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_qc_lang1 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_cqc_lang X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_qc_lang1 X0) \wedge ((m1_subset_1 \\ & X1 (k3_cqc_lang X0)) \wedge (m1_subset_1 X2 (k3_cqc_lang X0)))) \Rightarrow (m2_subset_1 \\ & (k8_cqc_lang X0 X1 X2) (k9_qc_lang1 X0) (k3_cqc_lang X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (m1_subset_1 (k3_qc_lang1 X0) (k1_zfmisc_1 (k2_qc_lang1 X0))) \quad (6)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (m1_subset_1 (k3_cqc_lang X0) (k1_zfmisc_1 (k9_qc_lang1 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k3_cqc_lang X0)))) \Rightarrow (m1_subset_1 (k1_cqc_the1 X0 X1) (k1_zfmisc_1 (k3_cqc_lang X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0) \wedge ((m1_subset_1 X1 (k3_qc_lang1 X0)) \wedge (m1_subset_1 X2 (k3_cqc_lang X0)))) \Rightarrow (m2_subset_1 (k11_cqc_lang X0 X1 X2) (k9_qc_lang1 X0) (k3_cqc_lang X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k3_cqc_lang X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k3_cqc_lang X0))) \Rightarrow ((X2 = k1_cqc_the1 X0 X1) \Leftrightarrow (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow ((X3 \in X2) \Leftrightarrow (\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 (k3_cqc_lang X0)) \Rightarrow (((v1_cqc_the1 X4 X0) \wedge (r1_tarski X1 X4)) \Rightarrow (X3 \in X4)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& (k3_cqc_lang\ X0))) \Rightarrow ((v1_cqc_the1\ X1\ X0) \Leftrightarrow ((k5_cqc_lang\ X0 \in X1) \wedge \\
& (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow \\
& (\forall X3.(m2_subset_1\ X3\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow \\
& (\forall X4.(m2_subset_1\ X4\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow \\
& (\forall X5.(m1_subset_1\ X5\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X6.(m2_subset_1 \\
& X6\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow (\forall X7.(m2_subset_1 \\
& X7\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0)) \Rightarrow ((k8_cqc_lang\ X0\ (k8_cqc_lang \\
& X0\ (k6_cqc_lang\ X0\ X2)\ X2) \in X1) \wedge ((k8_cqc_lang\ X0\ X2\ (k8_cqc_lang \\
& X0\ (k6_cqc_lang\ X0\ X2)\ X3) \in X1) \wedge ((k8_cqc_lang\ X0\ (k8_cqc_lang\ X0 \\
& X2\ X3)\ (k8_cqc_lang\ X0\ (k6_cqc_lang\ X0\ (k7_cqc_lang\ X0\ X3\ X4))\ (k6_cqc_lang \\
& X0\ (k7_cqc_lang\ X0\ X2\ X4))) \in X1) \wedge ((k8_cqc_lang\ X0\ (k7_cqc_lang \\
& X0\ X2\ X3)\ (k7_cqc_lang\ X0\ X3\ X2) \in X1) \wedge (((X2 \in X1) \wedge (k8_cqc_lang\ X0 \\
& X2\ X3 \in X1)) \Rightarrow (X3 \in X1)) \wedge ((k8_cqc_lang\ X0\ (k11_cqc_lang\ X0\ X6\ X2)\ X2 \in \\
& X1) \wedge (((k8_cqc_lang\ X0\ X2\ X3 \in X1) \Rightarrow ((X6 \in k24_qc_lang1\ X0\ X2) \vee (k8_cqc_lang \\
& X0\ X2\ (k11_cqc_lang\ X0\ X6\ X3) \in X1))) \wedge (((k13_cqc_lang\ X0\ X5\ X6 \in k3_cqc_lang \\
& X0) \wedge ((k13_cqc_lang\ X0\ X5\ X7 \in k3_cqc_lang\ X0) \wedge (k13_cqc_lang\ X0 \\
& X5\ X6 \in X1))) \Rightarrow ((X6 \in k24_qc_lang1\ X0\ X5) \vee (k13_cqc_lang\ X0\ X5\ X7 \in X1))))))))))))) \\
& \hspace{15em} (11)
\end{aligned}$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_xboole_0\ X1)) \quad (12)$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& (k3_cqc_lang\ X0))) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\
& X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X3.(m2_subset_1\ X3\ (k2_qc_lang1 \\
& X0)\ (k3_qc_lang1\ X0)) \Rightarrow (k8_cqc_lang\ X0\ (k11_cqc_lang\ X0\ X3\ X2)\ X2 \in \\
& k1_cqc_the1\ X0\ X1)))
\end{aligned}$$