

t57_cqc_the1
(TMT5MVfPSKF6B8E7sFyZ9nx56a9s85JgyBi)

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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 $r3_cqc_the1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1_qc_lang1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ (k3_cqc_lang X0))) \Rightarrow (\forall X2. (m2_subset_1 X2 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3. (m2_subset_1 X3 (k9_qc_lang1 \\ X0) (k3_cqc_lang X0)) \Rightarrow (\forall X4. (m2_subset_1 X4 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow ((k8_cqc_lang X0 X2 X3 \in k1_cqc_the1 X0 X1) \Rightarrow \\ ((X4 \in k24_qc_lang1 X0 X2) \vee (k8_cqc_lang X0 X2 (k11_cqc_lang X0 X4 \\ X3) \in k1_cqc_the1 X0 X1))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (3)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\neg v1_xboole_0 (k3_cqc_lang X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge((m1_subset_1\ X1\ (k3_cqc_lang\ X0))\wedge(m1_subset_1\ X2\ (k3_cqc_lang\ X0))))\Rightarrow(m2_subset_1\ (k8_cqc_lang\ X0\ X1\ X2)\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0)) \quad (6)$$

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.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k3_cqc_lang\ X0))))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow((r3_cqc_the1\ X0\ X1\ X2)\Leftrightarrow(X2\in k1_cqc_the1\ X0\ X1)))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (10)$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k3_cqc_lang\ X0))))\Rightarrow(\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0))\Rightarrow(\forall X3.(m2_subset_1\ X3\ (k9_qc_lang1\ X0)\ (k3_cqc_lang\ X0))\Rightarrow(\forall X4.(m2_subset_1\ X4\ (k2_qc_lang1\ X0)\ (k3_cqc_lang1\ X0))\Rightarrow((r3_cqc_the1\ X0\ X1\ (k8_cqc_lang\ X0\ X2\ X3))\Rightarrow((X4\in k24_qc_lang1\ X0\ X2)\vee(r3_cqc_the1\ X0\ X1\ (k8_cqc_lang\ X0\ X2\ (k11_cqc_lang\ X0\ X4\ X3)))))))))) \quad (11)$$