

t40_cqc_the3

(TMJMStKByahAguhLnX1kxFaP3BeYyTt8JzH)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ 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 $k3_cqc_lang : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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 $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (r3_cqc_the1 X0 (k6_domain_1 (k3_cqc_lang X0) X1) X1)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 (k2_xboole_0 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k3_cqc_lang X0))) \Rightarrow (\forall X2.(m2_subset_1 X2 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (((r3_cqc_the1 X0 X1 X2) \wedge (r3_cqc_the1 X0 X1 (k8_cqc_lang X0 X2 X3))) \Rightarrow (r3_cqc_the1 X0 X1 X3)))))) \quad (3)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k9_qc_lang1 X0) (k3_cqc_lang X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k3_cqc_lang X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k3_cqc_lang X0))) \Rightarrow (((r3_cqc_the1 X0 X2 X1) \wedge (r1_tarski X2 X3)) \Rightarrow (r3_cqc_the1 X0 X3 X1)))))) \quad (4)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (k6_domain_1 X0 X1 = k1_tarSKI X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(k4_subset_1 X0 X1 X2 = k2_xboole_0 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\neg v1_xboole_0 (k3_cqc_lang X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0)\wedge((m1_subset_1 X1 (k3_cqc_lang X0))\wedge(m1_subset_1 X2 (k3_cqc_lang X0))))\Rightarrow(m2_subset_1 (k8_cqc_lang X0 X1 X2) (k9_qc_lang1 X0) (k3_cqc_lang X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (m1_subset_1 (k6_domain_1 X0 X1) (k1_zfmisc_1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(m1_subset_1 (k4_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(m1_subset_1 (k3_cqc_lang X0) (k1_zfmisc_1 (k9_qc_lang1 X0))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (13)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (14)$$

Theorem 1

$$\begin{aligned} &\forall X0.(m1_qc_lang1 X0)\Rightarrow(\forall X1.(m2_subset_1 X1 (k9_qc_lang1 X0) (k3_cqc_lang X0))\Rightarrow(\forall X2.(m2_subset_1 X2 (k9_qc_lang1 X0) (k3_cqc_lang X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k3_cqc_lang X0))\Rightarrow((r3_cqc_the1 X0 X3 (k8_cqc_lang X0 X1 X2))\Rightarrow(r3_cqc_the1 X0 (k4_subset_1 (k3_cqc_lang X0) X3 (k6_domain_1 (k3_cqc_lang X0) X1) X2)))))) \end{aligned}$$