

t49_qc_lang3

(TMUeeU7BZmwN6VETRkWS7xMsXeTHKBPQryh)

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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 $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $v3_qc_lang2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_qc_lang3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (\forall X3. \\ ((\neg v1_xboole_0 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_qc_lang1 \\ X0)))) \Rightarrow (k4_qc_lang3 X0 X3 (k2_qc_lang2 X0 X1 X2) = k4_subset_1 X3 \\ (k4_qc_lang3 X0 X3 X1) (k4_qc_lang3 X0 X3 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (\forall X3. \\ ((\neg v1_xboole_0 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_qc_lang1 \\ X0)))) \Rightarrow (k4_qc_lang3 X0 X3 (k14_qc_lang1 X0 X1 X2) = k4_subset_1 \\ X3 (k4_qc_lang3 X0 X3 X1) (k4_qc_lang3 X0 X3 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v3_qc_lang2 X1 X0) \Rightarrow (X1 = k4_qc_lang2 X0 (k13_qc_lang2 X0 \\ X1) (k14_qc_lang2 X0 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X1 = \\ X1) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge(((\neg v1_xboole_0\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_qc_lang1\ X0))))\wedge(m1_subset_1\ X2\ (k9_qc_lang1\ X0))))\Rightarrow(m1_subset_1\ (k4_qc_lang3\ X0\ X1\ X2)\ (k1_zfmisc_1\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge((m1_subset_1\ X1\ (k9_qc_lang1\ X0))\wedge(m1_subset_1\ X2\ (k9_qc_lang1\ X0))))\Rightarrow(m1_subset_1\ (k2_qc_lang2\ X0\ X1\ X2)\ (k9_qc_lang1\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k14_qc_lang2\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k13_qc_lang2\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow(k4_qc_lang2\ X0\ X1\ X2 = k14_qc_lang1\ X0\ (k2_qc_lang2\ X0\ X1\ X2)\ (k2_qc_lang2\ X0\ X2\ X1)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ X0)))\Rightarrow(k4_subset_1\ X0\ X1\ X2 = k4_subset_1\ X0\ X2\ X1) \quad (10)$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.((\neg v1_xboole_0\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_qc_lang1\ X0))))\Rightarrow((v3_qc_lang2\ X1\ X0)\Rightarrow(k4_qc_lang3\ X0\ X2\ X1 = k4_subset_1\ X2\ (k4_qc_lang3\ X0\ X2\ (k13_qc_lang2\ X0\ X1))\ (k4_qc_lang3\ X0\ X2\ (k14_qc_lang2\ X0\ X1))))))$$