

t17_qc_lang3
(TMLm355b7pu5NGhy18bJUGVdhKh9zQimhDN)

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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 $v3_qc_lang2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k24_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ 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 $k4_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v3_qc_lang2 X1 X0) \Rightarrow (X1 = k4_qc_lang2 X0 (k13_qc_lang2 X0 \\ X1) (k14_qc_lang2 X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (k24_qc_lang1 \\ X0 (k2_qc_lang2 X0 X1 X2) = k4_subset_1 (k3_qc_lang1 X0) (k24_qc_lang1 \\ X0 X1) (k24_qc_lang1 X0 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (k24_qc_lang1 \\ X0 (k14_qc_lang1 X0 X1 X2) = k4_subset_1 (k3_qc_lang1 X0) (k24_qc_lang1 \\ X0 X1) (k24_qc_lang1 X0 X2)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\ k2_xboole_0 X1 X2) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(\neg v1_subset_1 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(k4_subset_1 X0 X1 X1 = X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0)\wedge((m1_subset_1 X1 (k9_qc_lang1 X0))\wedge(m1_subset_1 X2 (k9_qc_lang1 X0))))\Rightarrow(m1_subset_1 (k2_qc_lang2 X0 X1 X2) (k9_qc_lang1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0)\wedge(m1_subset_1 X1 (k9_qc_lang1 X0)))\Rightarrow(m1_subset_1 (k24_qc_lang1 X0 X1) (k1_zfmisc_1 (k3_qc_lang1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0)\wedge(m1_subset_1 X1 (k9_qc_lang1 X0)))\Rightarrow(m1_subset_1 (k14_qc_lang2 X0 X1) (k9_qc_lang1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1 X0)\wedge(m1_subset_1 X1 (k9_qc_lang1 X0)))\Rightarrow(m1_subset_1 (k13_qc_lang2 X0 X1) (k9_qc_lang1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k9_qc_lang1 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0))\Rightarrow(k4_qc_lang2 X0 X1 X2 = k14_qc_lang1 X0 (k2_qc_lang2 X0 X1 X2) (k2_qc_lang2 X0 X2 X1)))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(k4_subset_1 X0 X1 X2 = k4_subset_1 X0 X2 X1) \quad (12)$$

Theorem 1

$$\forall X0.(m1_qc_lang1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k9_qc_lang1 X0))\Rightarrow((v3_qc_lang2 X1 X0)\Rightarrow(k24_qc_lang1 X0 X1 = k4_subset_1 (k3_qc_lang1 X0) (k24_qc_lang1 X0 (k13_qc_lang2 X0 X1)) (k24_qc_lang1 X0 (k14_qc_lang2 X0 X1))))))$$