

t40_qc_lang2
(TMdrQsULRSYwEcjEj9b7kxBratzBs8QkEpu)

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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 $v4_qc_lang2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k22_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k3_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k15_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 \\ X0)) \Rightarrow ((k21_qc_lang1 X0 (k15_qc_lang1 X0 X1 X2) = X1) \wedge (k22_qc_lang1 \\ X0 (k15_qc_lang1 X0 X1 X2) = X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 \\ X0)) \Rightarrow (k18_qc_lang1 X0 (k5_qc_lang2 X0 X1 X2) = k15_qc_lang1 X0 X1 \\ (k13_qc_lang1 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (k18_qc_lang1 X0 (k13_qc_lang1 X0 X1) = X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k9_qc_lang1 \\ X0))) \Rightarrow (m1_subset_1 (k13_qc_lang1 X0 X1) (k9_qc_lang1 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v4_qc_lang2 X1 X0) \Leftrightarrow (\exists X2.(m2_subset_1 X2 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \wedge (\exists X3.(m1_subset_1 X3 (k9_qc_lang1 \\ X0)) \wedge (X1 = k5_qc_lang2 X0 X2 X3)))))) \end{aligned} \quad (5)$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow((v4_qc_lang2\ X1\ X0)\Rightarrow(X1 = k5_qc_lang2\ X0\ (k21_qc_lang1\ X0\ (k18_qc_lang1\ X0\ X1))\ (k18_qc_lang1\ X0\ (k22_qc_lang1\ X0\ (k18_qc_lang1\ X0\ X1))))))$$