

t25_qc_lang3
(TMbf2gKcnHbZe7kKkTdpehkDTXwrowUcGB4)

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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 $v6_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (((v6_qc_lang1 \\ X1 X0) \wedge (v6_qc_lang1 X2 X0)) \Leftrightarrow (v6_qc_lang1 (k14_qc_lang1 X0 X1 X2) \\ X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v6_qc_lang1 X1 X0) \Leftrightarrow (v6_qc_lang1 (k13_qc_lang1 X0 X1) X0))) \end{aligned} \tag{2}$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (k3_qc_lang2 \\ X0 X1 X2 = k13_qc_lang1 X0 (k14_qc_lang1 X0 (k13_qc_lang1 X0 X1) (\\ k13_qc_lang1 X0 X2)))))) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0)) \Rightarrow (((v6_qc_lang1 \\ X1\ X0) \wedge (v6_qc_lang1\ X2\ X0)) \Leftrightarrow (v6_qc_lang1\ (k3_qc_lang2\ X0\ X1\ X2) \\ X0)))) \end{aligned}$$