

t39_qc_lang2
(TMP7gjhEtjyrgHvRZrp2N4e56VugjhqGrFL)

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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 $k4_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k19_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow ((k13_qc_lang2 \\ & X0 (k4_qc_lang2 X0 X1 X2) = X1) \wedge ((k14_qc_lang2 X0 (k4_qc_lang2 X0 \\ & X1 X2) = X2) \wedge ((k19_qc_lang1 X0 (k4_qc_lang2 X0 X1 X2) = k2_qc_lang2 \\ & X0 X1 X2) \wedge (k20_qc_lang1 X0 (k4_qc_lang2 X0 X1 X2) = k2_qc_lang2 X0 \\ & X2 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ & X0)) \Rightarrow ((v3_qc_lang2 X1 X0) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (k9_qc_lang1 \\ & X0)) \wedge (\exists X3.(m1_subset_1 X3 (k9_qc_lang1 X0)) \wedge (X1 = k4_qc_lang2 \\ & X0 X2 X3)))))) \end{aligned} \tag{2}$$

Theorem 1

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