

t20_qc_lang2 (TMLCou- JuKd7FYboqpPn7X2j2eGNdvL9Q2vD)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k8_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k9_qc_lang1 \\ X0)) \Rightarrow (k9_qc_lang2 X0 X1 X2 X3 X4 = k5_qc_lang2 X0 X1 (k7_qc_lang2 \\ X0 X2 X3 X4)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k9_qc_lang1 \\ X0)) \Rightarrow (k8_qc_lang2 X0 X1 X2 X3 X4 = k15_qc_lang1 X0 X1 (k6_qc_lang2 \\ X0 X2 X3 X4)))))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X3.(m2_subset_1 X3 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k9_qc_lang1 \\ X0)) \Rightarrow ((k8_qc_lang2 X0 X1 X2 X3 X4 = k15_qc_lang1 X0 X1 (k6_qc_lang2 \\ X0 X2 X3 X4)) \wedge (k9_qc_lang2 X0 X1 X2 X3 X4 = k5_qc_lang2 X0 X1 (k7_qc_lang2 \\ X0 X2 X3 X4)))))) \end{aligned}$$