

t97_qc_lang2 (TM- Rmp1doPT4bnQ9gtcCLqBWLY3z2CXmut5a)

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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 $v5_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k22_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ 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. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k2_qc_lang1 X0) (k3_qc_lang1 \\ X0)) \Rightarrow (k15_qc_lang2 X0 (k15_qc_lang1 X0 X2 X1) = k2_xboole_0 (k15_qc_lang2 \\ X0 X1) (k1_tarski (k15_qc_lang1 X0 X2 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v5_qc_lang1 X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 \\ X0)) \Rightarrow ((X2 = k22_qc_lang1 X0 X1) \Leftrightarrow (\exists X3.(m2_subset_1 X3 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \wedge (X1 = k15_qc_lang1 X0 X3 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v5_qc_lang1 X1 X0) \Leftrightarrow (\exists X2.(m2_subset_1 X2 (k2_qc_lang1 \\ X0) (k3_qc_lang1 X0)) \wedge (\exists X3.(m1_subset_1 X3 (k9_qc_lang1 \\ X0)) \wedge (X1 = k15_qc_lang1 X0 X2 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (4)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v5_qc_lang1 X1 X0) \Rightarrow (k15_qc_lang2 X0 X1 = k2_xboole_0 (k15_qc_lang2 \\ X0 (k22_qc_lang1 X0 X1) (k1_tarski X1)))))) \end{aligned}$$