

t96_qc_lang2
(TMWUVy8P7TxywN5FvzLQUg6BwGQvXq8xx14)

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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 $v4_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k19_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (k15_qc_lang2 \\ X0 (k14_qc_lang1 X0 X1 X2) = k2_xboole_0 (k2_xboole_0 (k15_qc_lang2 \\ X0 X1) (k15_qc_lang2 X0 X2)) (k1_tarski (k14_qc_lang1 X0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow ((k19_qc_lang1 \\ X0 (k14_qc_lang1 X0 X1 X2) = X1) \wedge (k20_qc_lang1 X0 (k14_qc_lang1 \\ X0 X1 X2) = X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v4_qc_lang1 X1 X0) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (k9_qc_lang1 \\ X0)) \wedge (\exists X3.(m1_subset_1 X3 (k9_qc_lang1 X0)) \wedge (X1 = k14_qc_lang1 \\ X0 X2 X3)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow ((v4_qc_lang1 X1 X0) \Rightarrow (k15_qc_lang2 X0 X1 = k2_xboole_0 (k2_xboole_0 \\ (k15_qc_lang2 X0 (k19_qc_lang1 X0 X1)) (k15_qc_lang2 X0 (k20_qc_lang1 \\ X0 X1))) (k1_tarski X1)))) \end{aligned}$$