

t93_qc_lang2
(TMN2aC6mMRRUnK51Xmm9EGxdw6iJTgLi4H9)

October 27, 2020

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 $k15_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (k15_qc_lang2 \\ & X0 (k2_qc_lang2 X0 X1 X2) = k2_xboole_0 (k2_xboole_0 (k15_qc_lang2 \\ & X0 X1) (k15_qc_lang2 X0 X2)) (k1_enumset1 (k13_qc_lang1 X0 X2) (\\ & k14_qc_lang1 X0 X1 (k13_qc_lang1 X0 X2)) (k2_qc_lang2 X0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (k15_qc_lang2 \\ & X0 (k14_qc_lang1 X0 X1 X2) = k2_xboole_0 (k2_xboole_0 (k15_qc_lang2 \\ & X0 X1) (k15_qc_lang2 X0 X2)) (k1_tarski (k14_qc_lang1 X0 X1 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k2_xboole_0 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 X0 (k2_xboole_0 X1 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.k5_enumset1 X0 X1 X2 X3 X4 X5 X6 = k2_xboole_0 (k4_enumset1 \\ & X0 X1 X2 X3 X4 X5) (k1_tarski X6) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & k4_enumset1\ X0\ X1\ X2\ X3\ X4\ X5 = k2_xboole_0\ (k1_enumset1\ X0\ X1\ X2)\ (\\ & \quad k1_enumset1\ X3\ X4\ X5) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0\ X0\ X0 = X0 \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge((m1_subset_1 \\ & X1\ (k9_qc_lang1\ X0))\wedge(m1_subset_1\ X2\ (k9_qc_lang1\ X0))))\Rightarrow(m1_subset_1 \\ & \quad (k2_qc_lang2\ X0\ X1\ X2)\ (k9_qc_lang1\ X0)) \end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\ & X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow(k4_qc_lang2 \\ & X0\ X1\ X2 = k14_qc_lang1\ X0\ (k2_qc_lang2\ X0\ X1\ X2)\ (k2_qc_lang2\ X0\ X2 \\ & \quad X1)))) \end{aligned} \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0\ X0\ X1 = k2_xboole_0\ X1\ X0 \tag{9}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\ & X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow(k15_qc_lang2 \\ & X0\ (k4_qc_lang2\ X0\ X1\ X2) = k2_xboole_0\ (k2_xboole_0\ (k15_qc_lang2 \\ & X0\ X1)\ (k15_qc_lang2\ X0\ X2))\ (k5_enumset1\ (k13_qc_lang1\ X0\ X2)\ (\\ & k14_qc_lang1\ X0\ X1\ (k13_qc_lang1\ X0\ X2))\ (k2_qc_lang2\ X0\ X1\ X2)\ (\\ & k13_qc_lang1\ X0\ X1)\ (k14_qc_lang1\ X0\ X2\ (k13_qc_lang1\ X0\ X1))\ (k2_qc_lang2 \\ & \quad X0\ X2\ X1)\ (k4_qc_lang2\ X0\ X1\ X2)))))) \end{aligned}$$