

t92_qc_lang2 (TMF- FxQghP7xypWEr5TQA7rYBsHPiia2cY6n)

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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 $k15_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ & X0)) \Rightarrow (k15_qc_lang2 X0 (k13_qc_lang1 X0 X1) = k2_xboole_0 (k15_qc_lang2 \\ & X0 X1) (k1_tarski (k13_qc_lang1 X0 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.k2_enumset1 X0 X1 \\ & X2 X3 = k2_xboole_0 (k2_tarski X0 X1) (k2_tarski X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k2_xboole_0 (k2_xboole_0 X0 \\ & X1) X2 = k2_xboole_0 X0 (k2_xboole_0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.k2_tarski X0 X1 = k2_xboole_0 (k1_tarski \\ & X0) (k1_tarski X1) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge((m1_subset_1\ X1\ (k9_qc_lang1\ X0))\wedge(m1_subset_1\ X2\ (k9_qc_lang1\ X0))))\Rightarrow(m1_subset_1\ (k14_qc_lang1\ X0\ X1\ X2)\ (k9_qc_lang1\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(m1_subset_1\ (k13_qc_lang1\ X0\ X1)\ (k9_qc_lang1\ X0)) \quad (7)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow(k3_qc_lang2\ X0\ X1\ X2 = k13_qc_lang1\ X0\ (k14_qc_lang1\ X0\ (k13_qc_lang1\ X0\ X1)\ (k13_qc_lang1\ X0\ X2)))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0\ X0\ X1 = k2_xboole_0\ X1\ X0 \quad (9)$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow(k15_qc_lang2\ X0\ (k3_qc_lang2\ X0\ X1\ X2) = k2_xboole_0\ (k2_xboole_0\ (k15_qc_lang2\ X0\ X1)\ (k15_qc_lang2\ X0\ X2))\ (k2_enumset1\ (k13_qc_lang1\ X0\ X2)\ (k13_qc_lang1\ X0\ X1)\ (k14_qc_lang1\ X0\ (k13_qc_lang1\ X0\ X1)\ (k13_qc_lang1\ X0\ X2))\ (k3_qc_lang2\ X0\ X1\ X2))))))$$