

t42_qc_lang2 (TMPsXwehJzBGjdzKKKqnXJM- sUM9AzQWSXpK)

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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 $k5_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $k8_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $r1_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $v3_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k14_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow ((\neg v2_qc_lang1 (k12_qc_lang1 X0) \\ & X0) \wedge ((\neg v3_qc_lang1 (k12_qc_lang1 X0) X0) \wedge ((\neg v4_qc_lang1 (k12_qc_lang1 \\ & X0) X0) \wedge ((\neg v5_qc_lang1 (k12_qc_lang1 X0) X0) \wedge (\forall X1.(m1_subset_1 \\ & X1 (k9_qc_lang1 X0)) \Rightarrow ((\neg (v2_qc_lang1 X1 X0) \wedge (v3_qc_lang1 X1 X0)) \wedge \\ & ((\neg (v2_qc_lang1 X1 X0) \wedge (v4_qc_lang1 X1 X0)) \wedge ((\neg (v2_qc_lang1 \\ & X1 X0) \wedge (v5_qc_lang1 X1 X0)) \wedge ((\neg (v3_qc_lang1 X1 X0) \wedge (v4_qc_lang1 \\ & X1 X0)) \wedge ((\neg (v3_qc_lang1 X1 X0) \wedge (v5_qc_lang1 X1 X0)) \wedge (\neg (v4_qc_lang1 \\ & X1 X0) \wedge (v5_qc_lang1 X1 X0))))))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge (m1_qc_lang1 X1)) \Rightarrow (\neg v1_xboole_0 (k8_qc_lang1 X1 X0)) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ k5_numbers))\Rightarrow (m1_subset_1\ (k8_qc_lang1\ X0\ X1)\ (k1_zfmisc_1\ (k6_qc_lang1\ X0))) \quad (5)$$

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.

$$\forall X0.\forall X1.\forall X2.((m1_qc_lang1\ X0)\wedge((m1_subset_1\ X1\ (k6_qc_lang1\ X0))\wedge(m1_finseq_1\ X2\ (k2_qc_lang1\ X0))))\Rightarrow(m1_subset_1\ (k10_qc_lang1\ X0\ X1\ X2)\ (k9_qc_lang1\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow((v5_qc_lang1\ X1\ X0)\Leftrightarrow(\exists X2.(m2_subset_1\ X2\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0))\wedge(\exists X3.(m1_subset_1\ X3\ (k9_qc_lang1\ X0))\wedge(X1 = k15_qc_lang1\ X0\ X2\ X3)))))) \quad (9)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow((v4_qc_lang1\ X1\ X0)\Leftrightarrow(\exists X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\wedge(\exists X3.(m1_subset_1\ X3\ (k9_qc_lang1\ X0))\wedge(X1 = k14_qc_lang1\ X0\ X2\ X3)))))) \quad (10)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\Rightarrow((r1_qc_lang2\ X0\ X1\ X2)\Leftrightarrow(\neg(X2\neq k13_qc_lang1\ X0\ X1)\wedge((\forall X3.(m1_subset_1\ X3\ (k9_qc_lang1\ X0))\Rightarrow((X2\neq k14_qc_lang1\ X0\ X1\ X3)\wedge(X2\neq k14_qc_lang1\ X0\ X3\ X1)))\wedge(\forall X3.(m2_subset_1\ X3\ (k2_qc_lang1\ X0)\ (k3_qc_lang1\ X0))\Rightarrow(X2\neq k15_qc_lang1\ X0\ X3\ X1))))))) \quad (11)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow((v3_qc_lang1\ X1\ X0)\Leftrightarrow(\exists X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0))\wedge(X1 = k13_qc_lang1\ X0\ X2)))) \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\
& X0)) \Rightarrow ((v2_qc_lang1\ X1\ X0) \Leftrightarrow (\exists X2.(m1_subset_1\ X2\ k5_numbers) \wedge \\
& (\exists X3.(m2_subset_1\ X3\ (k6_qc_lang1\ X0)\ (k8_qc_lang1\ X0\ X2)) \wedge \\
& (\exists X4.((v3_card_1\ X4\ X2) \wedge (m2_finseq_1\ X4\ (k2_qc_lang1\ X0)) \wedge \\
& (X1 = k10_qc_lang1\ X0\ X3\ X4))))))
\end{aligned} \tag{13}$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_xboole_0\ X1)) \tag{14}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ k5_numbers) \Rightarrow (\forall X3.(m2_subset_1 \\
& X3\ (k6_qc_lang1\ X0)\ (k8_qc_lang1\ X0\ X2)) \Rightarrow (\forall X4.((v3_card_1 \\
& X4\ X2) \wedge (m2_finseq_1\ X4\ (k2_qc_lang1\ X0)) \Rightarrow (\neg r1_qc_lang2\ X0\ X1 \\
& (k10_qc_lang1\ X0\ X3\ X4))))))
\end{aligned}$$